

Internationalization Patterns of Finland's Capital Investments Cluster as Determinant for Its Future Competitiveness in Foreign Markets

Pekka Huovinen

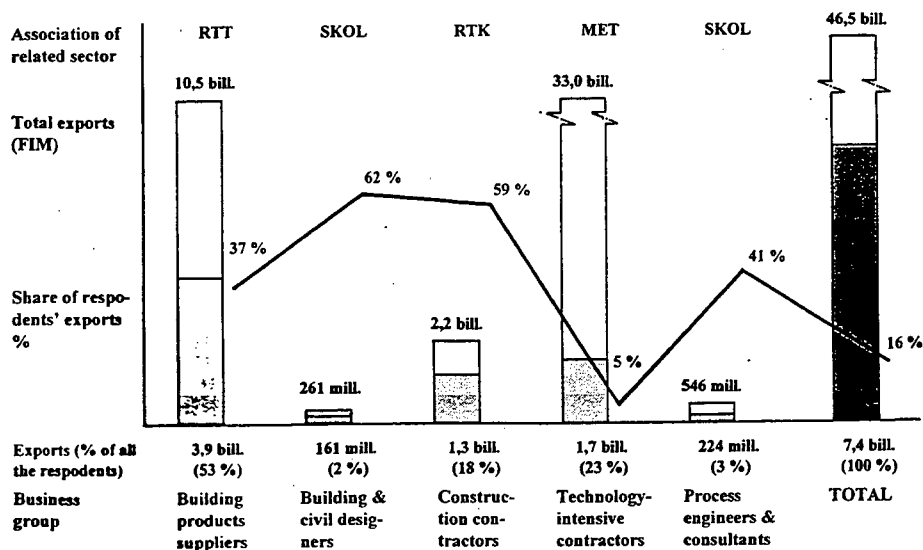


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Suomen investointiklusterin kansainvälistymisen nykytila ja sen vaikutukset yritysryhmien kilpailukykyyn ulkomaisilla investointimarkkinoilla



RESPONDENTS' SHARE OF FINNISH EXPORTS IN 1996
Based on the total exports of the five related sectors in Finland (FIM)



Teknillinen korkeakoulu
Rakennus- ja yhdyskuntatekniikan osasto
Rakentamistalous

Helsinki University of Technology
Department of Civil and Environmental
Engineering
Construction Economics and Management

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Internationalization Patterns of Finland's Capital Investments Cluster as Determinant for Its Future Competitiveness in Foreign Markets

Pekka Huovinen*

This is a research paper in the HUT/CEM Research and Working Paper Series intended as a means whereby a HUT/CEM researcher's thoughts and findings may be communicated in a preliminary manner which thus may require future revision and updating.

The realized (by the year 1996) and planned (up to the year 2000) internationalization patterns among the five business (company) groups belonging to Finland's capital investments cluster are analyzed in this paper. These patterns serve a.o. as the base for considering where our national industrial, technology, and internationalization policies should be focused on in order to strengthen Finland's capital investments cluster in the coming years.

This paper is primarily intended to communicate the characteristics of Finland's capital investments cluster to **the 75 companies** which responded to the mail survey as well as to **the steering group** of the competitiveness study still in progress.

An earlier draft of this paper was presented at the 4th Workshop in International Business, the University of Vaasa, Finland, 25-27 Aug 1997. This paper is revised as of 30 Sept 1997. All the suggestions and reactions to this paper will be most gratefully received by the author.

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Abstract

This research paper is related to a study of competitiveness which is in progress during the years 1996-1997. First, the research problem and five research questions are stated. **The capital investment markets** deal with design, implementation, and services (also over the life-cycle) aspects of investments in the utilization of natural resources, energy supply, telecommunications, transportation, other infrastructure, manufacturing, and general building concerns. Similarly, the related industrial cluster consists of companies which satisfy these capital investment needs with their technologies, systems, products and services. Here, this potential cluster based in Finland is initially titled as **the "Capital Investments Cluster"**.

A framework for managing a company's competitiveness in foreign capital investment markets is suggested. The framework consists of **the three levels** (a company, its internationalized businesses and foreign contracts) and **the 12 constructs**. Consequently, **a company's competitiveness** consists of three kinds of the primary elements: contract-specific (constructs C1-C4), business-specific (B1-B4) and company-specific elements (T1-T4). **The contract-level competitiveness** is defined as follows: the degree of success in bidding and winning foreign contracts, executing these according to their conditions, local regulations and standards, and ensuring profitability by managing any emerging risks, disputes, and/or legal claims in the local environment.

The strength of a company's international competitiveness can be seen roughly in **its internationalization patterns**. These patterns include e.g. nationality of ownership, organizational (in)dependence, management teams, business structure, technology platform, market base, size, growth rate, profitability and investments in competitiveness. The realized (by the year 1996) and planned (up to the year 2000) internationalization patterns among the 75 large and medium-sized companies belonging to Finland's capital investments cluster were detected by using **a mail survey** (the response rate was sufficient enough, or 38 % of the total of the 199 companies based in Finland).

In this paper, **the likely impacts** of the realized internationalization patterns of Finland's capital investments cluster on these companies' goal-setting and future competitiveness, are derived based on the results of the mail survey by answering the following three questions: "To what extent do the realized internationalization patterns enable (as bases and opportunities) and/or limit (as boundaries) the companies' goal-setting up to the year 2000?", "What requirements does the realization of these goals set on the companies' future competitiveness?", and "What are the primary synergic and differing areas, among the companies belonging to Finland's capital investments cluster, where our national industrial, technology, and internationalization policies should be focused on?"

Keywords: International business, competitiveness, construction, contracting business, capital investment markets, industrial cluster.

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Tiivistelmä

Tämä selvitys on laadittu osana vuosina 1997-1997 käynnissä olevaa TEKESin rahoittamaa kilpailukykytutkimusta. Aluksi määritetään tutkimusongelma ja viisi avainkysymystä koko tutkimusohjelman kannalta. **Investointimarkkinoilla** tarkoitetaan kansantalouksien yksityisen ja julkisen sektorin uus-, korjaus- ja ylläpitoinvestointeja luonnonvarojen (kuten mineraalien, öljyn ja kaasun) hyödyntämiseen, energian tuotantoon, teolliseen valmistukseen, tietoliikenteeseen, kuljetuksiin, muuhun infrastruktuuriin ja talonrakennukseen. **Investointiklusterilla** tarkoitetaan yritysten joukkoa, jotka tarjoavat teknologioitaan, järjestelmiään, tuotteitaan ja palvelujaan em. investointien suunnitteluun, toteutukseen ja ylläpitoon kotimaisilla sekä ulkomaisilla investointimarkkinoilla. Yritykset jakaantuvat viiteen päätoimialaan tai -liiketoimintaan (yritysryhmään): rakennustuote-yritykset, rakennusalan urakoitsijat ja suunnittelijat, sekä muiden alojen teknologiantensiiviset urakoitsijat ja suunnittelijat.

Selvityksessä esitellään **alustava viitekehys**, joka on tarkoitettu ulkomaisilla investointimarkkinoilla toimivien suurten ja keskisuurten suomalaisten yritysten käyttöön näiden reaalisen kilpailukyvyn kehittämiseksi. Viitekehyksellä tarkoitetaan yrityksen kilpailukyvyn kehittämistä järjestelmänä, joka koostuu kolmesta tasosta (yritys, kansainvälistettävät liiketoiminnot ja ulkomaiset projektit) ja 12 kilpailukyvyn elementistä. Yrityksen **projekti- eli sopimustason kilpailukyky** määritellään seuraavasti: toimeksiantojen voittaminen (menestysaste) kansainvälisissä tarjouskilpailuissa sekä toimeenpano kannattavasti sopimusehtojen ja paikallisten määräysten mukaan, täyttäen tilaajan vaatimukset ja halliten toteutukseen liittyvät riskit.

Reaalisen kilpailukyvyn vahvuus voidaan todeta yrityksen **saavuttamana kansainvälistymisen asteena, tavoitteina ja rakenteina** mm. seuraavista näkökulmista: omistuksen kansallisuus, yrityksen itsenäisyys, johtoryhmien kokoonpano, liiketoimintarakenne, teknologiaperusta, markkina-perusta, liiketoiminnan koko, kasvu, kannattavuus ja investoinnit kansainväliseen kilpailukykyyn. Tutkimuksessa selvitettiin kirjekyselyn avulla kansainvälistymisen nykytilaa (vuosina 1995-1996) ja tavoiteasettelua (vuoteen 2000 asti) yritysjoukossa, johon kuuluu 199 suurta ja keskisuurta, Suomea kotipaikkanaan pitävää, suomalaisessa tai ulkomaisessa omistuksessa olevaa investointiklusterin yritystä. Kyselyyn vastasi 75 yritystä (eli palaute oli keskimäärin 38 %). Yrityskyselyn tulokset esitetään jaettuna em. viiteen päätoimialaan.

Yrityskyselyn tulosten perusteella määritellään Suomen investointiklusterin kansainvälistymisen nykytilan todennäköiset vaikutukset tavoiteasetteluun ja kilpailukykyyn jatkossa vastaamalla seuraaviin kolmeen kysymykseen: ”Missä laajuudessa ja millä tavoin kansainvälistymisen (vuoteen 1996 mennessä saavutettu) nykytila mahdollistaa ja/tai rajoittaa investointiklusteriin kuuluvien yritysten tavoiteasettelua (vuoteen 2000 asti)?”, ”Mitä vaatimuksia tämä kansainvälistymisen tavoiteasettelu asettaa yritysten kilpailukyvyille ja sen kehittämiseksi?” ja ”Mitä kansallisia teollisuus-, teknologia- ja kansainvälistymispoliittisia toimenpiteitä tarvitaan lähivuosina ko. investointiklusterin kansainvälistämisen tukemiseksi?”

Hakusanat: Kansainvälinen liiketoiminta, teollinen klusteri, kilpailukyky, rakennusala, projektiliiketoiminta, investointimarkkinat.

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1. INTRODUCTION

This research paper is related to the study **"Improving the international competitiveness of the companies belonging to Finland's capital investments cluster"**, in progress. The study is being conducted by the Construction Economics and Management unit at the Helsinki University of Technology (CEM/HUT) and financed by the Technology Development Centre in Finland (TEKES). During the years 1996-1997, the researchers have developed an initial competitiveness framework as well as carried out an analysis of the literature, a mail survey among 200 large and medium-sized companies based in Finland, and a co-operation inquiry among over 100 Finnish business and IT consultants, academic and commercial training institutions, and research organizations. The results will be published both in Finnish (as four reports) and in English (as 4-5 reports and papers).

The aims of this research paper are as follows:

- Defining a company's international competitiveness problem as a research problem, and six research questions (as the base for the study as a whole)
- Suggesting an initial conceptualized framework for managing a company's competitiveness in foreign capital investment markets
- Reviewing briefly the design and implementation of the mail survey
- Deriving initially the realized internationalization patterns' impacts on the goal-setting and future competitiveness of the companies related to their targeted capital investment markets abroad
- Concluding with the preliminary remarks on what elements of Finland's capital investments cluster our national industrial, technology, and internationalization policies should be focused on.

2. DEFINITION OF A COMPANY'S INTERNATIONAL COMPETITIVENESS PROBLEM AND RELATED RESEARCH QUESTIONS

The question **"How can a company create and sustain superior competitiveness?"** has been stated and will be restated as the generic management problem by all the practitioners, academics and consultants. But only a few of the suggested answers, theories and concepts, will stand the test of time. For example, Penrose laid the foundation for a resource-based management paradigm by developing her theory of the growth of the company and defining a company as "productive resources" and its management's primary task as "making use of productive opportunity" (Penrose 1959 pp. 24-25, 31-32).

Since the year 1980, Porter has dominated our thinking by introducing the three generic competitive strategies (1980) as well as the concept of value chain and competitive advantage for **sustainable and superior performance** (1985). In the year 1990, Prahalad & Hamel revisited the resource-based view when they introduced the concept of **core competence** of the company, and more recently a new strategy paradigm called **competing for the future** (1994). In addition, we have learned such related terms as competence-based competition (Hamel & Heene 1994) and competence-based strategic management (Heene & Sanchez 1997). In the 1990s, the number of books published containing tools for improving companies' **operational effectiveness** has at least tripled. These tools have proved to be effective when adopted and used properly for their original purposes. Each tool covers one or two crucial aspects of a company's competitiveness.

Now the tools have been enlarged into concepts in order to foresee "the destiny" and solve related problems of a company as a whole. These concepts are related, among other things, to time-based management (Stalk & Hout 1990), production-based management (Pine 1993), benchmarking (Watson 1994), total quality management (Harrington H.J. & Harrington J.S. 1995), reengineering (Hammer 1996), activity-based management (Kaplan & Norton 1996), lean management (Womack & Jones 1996) and value-based management (Copeland et.al. 1996). Among many others, Porter (1996) has understandably criticized this "new dogma ... and beliefs [as] dangerous half-truths", but he also admits that "**operational effectiveness and strategy** are both essential to superior performance". Likewise, Mintzberg (1996) presented his ten "insults" at Davos. Hilmer & Donaldson (1996) have debunked these "[management] fads that undermine our corporations".

Anyone who wants to contribute to this crowded field of management discipline, may be wise to choose a limited scope and to focus on an aspect or application area of competitiveness where significant value can be added to by country (e.g. Finland), market (the EU), industry (pulp & paper) or business (property development).

In my case, the author's background is related primarily to the internationalization of construction industries in Finland. In the years 1991-1992, the domestic volume of construction dropped by over 40 % from the preceding peak years, and the volume is estimated to remain at this low level also in the future. Thus, **the construction industries and related associations** have set the increase in the degree of their internationalization as one of the primary goals in order to compensate the downturn of the domestic market. The internationalization strategy includes, among other things,

entering into new export markets as well as applying and adjusting the existing prefabrication technologies to the foreign markets (National construction task force 1994). Since the year 1992, we at the HUT/CEM have set out to assist Finnish companies in developing their international competitiveness as well as synthesizing and tailoring the existing management concepts, for example, for entering into the German building markets (Huovinen & Kiiras 1994).

In the 1990s, the "Porterian" studies on Finland's ten industrial clusters were carried out and managed by The Research Institute of The Finnish Economy (ETLA). These cluster studies were financed mainly by Fund of Finland's Independence (SITRA), ETLA, the Ministry of Trade and Industry (KTM) and TEKES. Two of the identified clusters are as a whole based on satisfying capital investment needs. **The engineering industry** has developed [towards an industrial cluster] together with forest, basic metals production and energy technology clusters in Finland (Kässi 1996). **The construction sector** suffered from the deep domestic recession and went through a state of transition (Matilainen et.al. 1994). Thus, our construction industry was judged as the defensive or latent cluster (Hernesniemi et.al. 1995). In the national summary report, it is stated that "it is the task of Finland's industrial policy to enhance the creation and growth of the advanced and specialized production factors as well as stimulate the emergence of strong industrial networks (Hernesniemi et.al. 1995).

Our ongoing study of competitiveness aims at improving the international competitiveness of Finnish companies operating in foreign capital investment markets. **The capital investment markets** include design, implementation and services (also over the life-cycle) aspects of investments in the utilization of natural resources, energy supply, telecommunications, transportation, infrastructure, manufacturing, and general building concerns. Similarly, the related industrial cluster consists of companies which satisfy these capital investment needs with their technologies, systems, products and services.

Here, this potential cluster based in Finland is initially called as the "**Capital Investments Cluster**" which consists of the two construction and engineering clusters, or industries, as well as the related parts (based on satisfying capital investment needs in respective sectors) of the other eight clusters in Finland.

In this context, we defined **the research problem** as the challenge facing a company with regard to competing successfully in foreign capital investment markets as follows:

How can a company develop and sustain its international competitiveness in order to win major contracts in competitive bidding situations (to fulfill its primary clients' requirements better than competitors), and also to execute the contracts (projects) in ways that result in high profitability as well as high satisfaction of the clients in the targeted capital investment markets?

This international competitiveness problem was further divided into and specified as **the six sub-problems or research questions** (this paper deals with the questions a-c and f):

- (a) How must a **company's international competitiveness** be approached, understood and defined in the case of **five distinct businesses and related competitor groups** operating in capital investment markets? In practice, a **company's contract-specific competitiveness** is tested "daily" by first winning (or losing) each targeted competitive bidding situation where the value of single contracts are typically tens and hundreds of millions (sometimes up to FIM 1-3 billions), and then by fulfilling these contracts profitably?
- (b) What structure and constructs must a **viable, applicable framework** consist of in order to enable the management of the companies belonging to Finland's capital investments cluster to manage their international competitiveness effectively?
- (c) **What assumptions and determinants** can or should be taken into account and defined when conceptualizing and actually utilizing the suggested framework? For example, the traditional explanatory factors such as ownership, company and business size, growth rate, performance, internationalization or globalization degree, organization type, business type and market type.
- (d) **What decision-making criteria** can or should the management in question use for choosing **the size, scope and specific areas and/or factors** of its international competitiveness to be developed during the next few years, year or months? -Each time, management will be called on to identify the need for improvement (e.g. optional/compulsory, plenty of time/urgent, program/project)? In practice, management designs **its strategy for investing** in the overall or international competitiveness. This question is always coupled with the next one.
- (e) **What decision-making criteria** can or should the management in question use for choosing **the way (or strategy) how to carry out** each development program, project or task to meet the objectives set? -Or in the most effective way? -Or more effectively than the leading competitors? -In terms of line organization's responsibilities, participating in-house and outside experts, and of concepts, models and tools to be adopted and applied?
- (f) What will be the primary target areas within Finland's capital investments cluster which **our national industrial and technology policies** should be focused on? What means will enhance best the synergic accumulation and effective development of the productive factors among the companies in question?

3. A SUGGESTED COMPETITIVENESS FRAMEWORK

The pragmatic foundations for considering a competitiveness framework which would benefit companies operating in foreign capital investment markets are as follows. There will be more and more **advanced investors** world-wide who aim at maximizing the total benefits of their capital investments in, for example, new industrial plants (McManamy et.al. 1994). Consequently, the investors will prioritize those internationally leading companies and investment solutions which will create and manage complete value-leveraging supply chains, and the investments' life-cycles, inputs and outputs, as well as environmental aspects. Thus, the traditional contracting modes, contract scope, and roles, typically determined by trade or profession, are becoming too narrow and rigid. On the other hand, this enlargement of contract scope, responsibilities, and tasks will also open up new business possibilities.

An investor will choose **an investment strategy** and specify the contracting mode(s) which he perceives will ensure the attainment of the objectives set for his investment in question. Further, the contracting mode will determine the participants, their responsibilities and the interconnected network of contracts which, in turn, will establish **several investment-specific client chains**. According to today's practice, tens or hundreds of companies participating in these chains will be replaced and subcontracted by each new investment project (as the outcome of the adopted contracting procedure). Each participating company must tailor its competitive strategy and core investment solution to each targeted competitive situation. A company may identify, market and bid, hurry up or postpone indefinitely, and finally win or lose tens of major competitive situations simultaneously. Alternative competitive strategies and strategic competitor groups can be identified by **companies' roles** in value-leveraging processes as conducted by a general contractor, engineering contractor and plant contractor, subcontractor, process consultant, engineer, supplier and O&M service company (Huovinen 1996 p. 212-213; Heikkilä et.al 1987 pp. 29-31).

The theoretical foundations for choosing the primary constructs of a suggested competitiveness framework lie in a core competencies concept (Prahalad & Hamel 1990), reengineering idea (Hammer & Champy 1993), industrial buying behavior models (such as Webster & Wind 1972) and a set of international and national guidelines for arranging competitive bidding competitions (such as FIDIC's conditions; Sawyer & Gillott 1990).

A **suggested framework** for managing a company's competitiveness in foreign capital investment markets consists of **three levels** as follows: the level of a company as a whole, the level of internationalizing businesses, and that of foreign contracts (Fig. 1).

At the level of contracts, the management's emphasis is on succeeding in the "**end solutions competition**". All the tests concerning a company's day-to-day or short-term competitiveness (performance) take place in the targeted market segments. **A company's contract-level competitiveness** can be defined as follows: the degree of success in bidding and winning foreign contracts, typically in competitive bidding settings, executing these contracts according to their conditions, local regulations and standards, and ensuring profitability by managing any related risks, disputes, and legal claims in the local environment.

It is argued here that a company will manage best **its contract-specific competitiveness** through excelling in the following four capabilities (the lower level, Fig. 1):

- (C1) **Contract, or project, management capability.** To bid and win the targeted contract (project) in competitive bidding settings. -To execute the won contract according to their conditions, local regulations and standards. -To manage anticipated and other emerging risks, disputes and legal claims in the local environment. -To ensure that the client meets its objectives and expectations. -To ensure that the company meets its financial and other objectives set for the performance.
- (C2) **Competitive settings capability.** To target the most attractive investor(s) and their investments at any given time. -To learn in-depth each investor's (client's) buying behavior. -To know major players and their competitive strategies and offerings. -To anticipate major changes in the competitive environment. -To build the best local, regional and global information pipelines.
- (C3) **Investment solving and client care capability.** To tailor and realize the most competitive strategy and to adjust and design the best solution (i.e. system, plant, engineering & design, machinery, building products, construction, erection and/or start-up services) for the investment in question. - To manage the client relationship successfully by tailoring and offering pre-sales and after-sales services.
- (C4) **Leveraging processes capability.** To create and tailor the most effective leveraging processes needed. -To adjust the selling process based on direct client feedback. -To create and manage execution (i.e. turnkey delivery, design, supply, erection and/or start-up) process. -To create and adjust processes for pre and after sales services, incl. financial engineering when required. -To integrate the processes with the local, regional and global business environment, also across the globe. -To meet the primary quality and environmental requirements set for the contracting party.

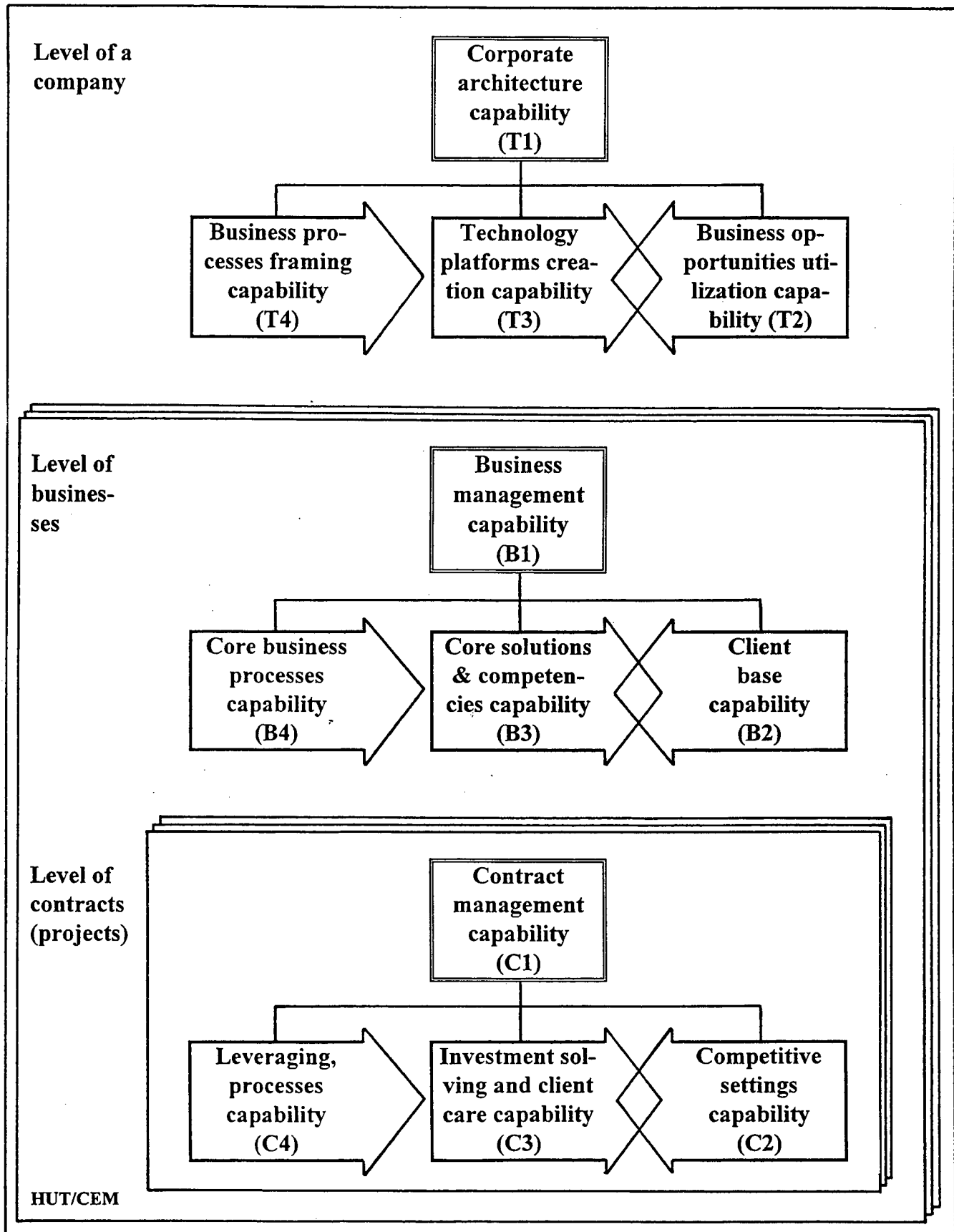


Fig. 1. A suggested framework for managing a company's competitiveness in foreign capital investment markets. A company is defined as a dynamic system consisting of the three kinds of subsystems (at the three levels) and the 12 kinds of capabilities (constructs).

At the level of internationalizing businesses (or strategic business areas), the business management must focus on competitive issues and on ensuring its performance both in the short and the longer term. In addition, the management team must enhance its own and personnel's capabilities. It is argued here that a company may manage best its **business-specific competitiveness** through excelling in the following four capabilities (the middle level, Fig. 1):

- (B1) **Business management capability.** To make scenarios on changes in the targeted investment needs. -To anticipate and evaluate the emerging and current ways to satisfy these investment needs with profit. -To perceive priorities and changes in the targeted client (investor) bases and their behavior. -To make and realize business plans including goals, strategies, actions, and resources. -To make and realize investments plans concerning the business and capabilities. -To manage high business performance based on the real-time measurement.
- (B2) **Client base capability.** To manage the fit between the client base strategy and the continuously changing group of targeted clients, their investment and related competition. -To ensure the most profitable client and contract base. -To master buying behavior patterns and accumulation of the in-depth knowledge of changing competitive environments. -To make a win/loss analysis. -To develop client base teams and key marketing persons (e.g. client accountants).
- (B3) **Core solutions capability.** To manage the fit between the core solutions strategy and its applications in contracts being targeted, won/lost and executed. -To ensure a set of viable competitive strategies (for anticipated competitive settings). -To redesign continuously a range of core investment solutions. -To sustain the platform of superior core competencies (to create, buy and/or cooperate). -To create and manage the most effective creation and application processes. -To develop core solution teams and key persons.
- (B4) **Core processes capability.** To manage the fit between the core processes strategy and its applications in contracts being pre-serviced, bid, executed and after-serviced. -To ensure the most effective core processes and their supporting processes. -To integrate its own process with possible partners' and subsuppliers' processes into a total, enlarged, seamless, transparent supply chain. -To develop core process teams and key persons (e.g. process owners).

At the company level, the primary tasks of top management are to manage the synergic architecture of a company, to anticipate and utilize business opportunities, to renew technology platforms, and to frame business processes effectively. In addition, the top management must ensure a fit between a company (as a whole) and its internationalizing businesses, and a similar fit with the targeted and won contracts, both in the shorter and the longer term.

It is argued here that a company may manage best **its company-level competitiveness** through excelling in the following four capabilities (the upper level, Fig. 1):

- (T1) **Company architecture capability.** To sustain the most effective architecture which consists of owners, top management team, business structure, market base, technology platforms, company size and profitability (also by business), management system, values and image. -To manage fits and synergies among these architectural elements as well as between businesses, contracts and capabilities. -To build the most effective, real-time measurement system to enable the attainment of high performance in each business and contract.
- (T2) **Business opportunities utilization capability.** To anticipate and evaluate emerging and current business opportunities. -To formulate and evaluate alternative ways (strategies) to utilize these opportunities profitably. -To choose and update the targeted capital investment needs and the related businesses which the company will master and internationalize (e.g. Europeanize or globalize). -To bundle sources for attractive client- or investment-specific financing packages. -To manage synergies among the businesses. -To manage synergies among the targeted market and client bases. -To make and realize investment plans concerning the targeted new businesses (as a part of the desired business structure).
- (T3) **Technology platforms creation capability.** -To make scenarios on alternative developments in the targeted capital investment needs. -To anticipate and evaluate related emerging and current technologies (and platforms). -To choose and update the company's own technology platform(s) for its businesses. -To formulate and evaluate alternative ways (e.g. to create, buy and cooperate) to master the targeted core technologies and competencies. -To choose the company's technology strategies. -To manage synergies among the platforms, technologies and competencies. -To make and realize investment plans concerning the chosen technology platforms (e.g. R & D and acquisitions).
- (T4) **Business processes framing capability.** -To make scenarios on alternative routes for the company to grow, to diverge or converge its business and market structures. -To anticipate and evaluate the effectiveness of related emerging and current ways to frame, organize, execute and support the company's business processes. -To design alternative viable business processes and their frames (incl. organization structure, IT systems and administration). -To choose and update the company's business frame. -To internationalize (e.g. Europeanize, or globalize) and localize the chosen frame. -To manage synergies among the business processes and frame. -To make and realize investment plans concerning the chosen business processes and frame.

The realization of a company's international competitiveness can be evaluated at each of the three levels both as performance measures and **internationalization patterns**. At the company level, these internationalization patterns are here defined in such terms as nationality of ownership, organizational (in)dependence, top management team, business structure, technology platform,

market base, company size, growth rate, profitability, as well as investments in its internationalizing businesses and international competitiveness (in the 12 kinds of capabilities).

4. MAIL SURVEY AMONG LARGE AND MEDIUM-SIZED, INTERNATIONALIZING COMPANIES BELONGING TO FINLAND'S CAPITAL INVESTMENTS CLUSTER

The **population** of companies operating in capital investment markets belong primarily to the **five distinct businesses or sectors**, differentiated by the ways each company group typically leverage their additional values to design, implementation and servicing of capital investments in their targeted markets. The **five business groups** and the related competitor groups are as follows:

- **Technology-intensive contracting** with competing groups of system, general, turnkey, engineering and plant contractors (e.g. Nokia Telecommunications)
- **Construction contracting** with competing groups of design+build, building, civil, HEPAC, other trade and specialty contractors (e.g. YIT Corporation Oy)
- **Process engineering, design and consultant services** with various competing groups of designers and consultants, related mainly to industrial processes (e.g. Jaakko Poyry Oy/wood processing)
- **Construction design and consultant services** with various competing groups of architects, engineers, project managers and consultants, related mainly to buildings and infrastructure (e.g. LT-Consultants Oy/transportation)
- **Supply of building products** with various competing groups of concrete, steel structures, ceramic and wooden products and materials as well as HEPAC and building automation systems suppliers (e.g. ABB Installations Oy/HEPAC).

The steering group of the study decided to target the Finland-based, domestic and foreign-owned companies that create the majority of our national exports to the foreign capital investment markets (according to the 80/20 rule). Thus, **the target population** (a subpopulation of the total population) includes all the large and medium-sized exporting companies. The minimum turnover, or invoicing, varies between FIM 10-100 mill., and the minimum exports value varies between FIM 5-20 mill. by group. The listed companies were approached by telephone in Spring 1996 to verify their exports and to update the contact information. In August 1996, a letter and questionnaire were sent to over 200 identified companies. Finally, in February 1997 there were 199 companies listed altogether **in the survey population** which still includes a certain nonsampling bias (see the lists, [Annex 1](#)). A total of **75 companies** provided complete enough information. Among those companies that responded, the share of 26

products suppliers was 35 %, the share of 16 building and civil designers was 21 %, the share of 13 technology-intensive contractors was 17 %, the share of 12 construction contractors was 16 %, and the share of 8 process engineers and consultants was 11 %. **The response rate** was 38 % on average and ranged from 31 % (satisfactory) to 50 % (good) in the five business groups (Fig. 2). The lowest response rate was among building products suppliers, the highest one among construction contractors.

The value of **the population's total exports** from Finland has been estimated to equal appr. FIM 46.5 bill. in the year 1996. The exchange rates were 1 USD = 4,64 FIM and 1 ECU = 5.77 FIM as of 31 December 1996. Thus, the value of the total exports equals appr. USD 10.0 bill., and ECU 8.1 bill.. The value of the 72 responding companies' exports totaled appr. FIM 7.4 bill.. Thus, **the responding companies' share** was only appr. 16 % on average. The share ranged from 5 % (non-satisfactory) to 62 % (good) in the five business groups (Fig. 3). The lowest share was that of the 13 technology-intensive contractors; the highest share was that of 16 building and civil designers.

In the case of the large companies, the letters were addressed to their presidents or senior vice presidents responsible for international business as a whole, and in the case of the medium-sized companies, to their managing directors. 47 respondents, or 63 %, were responsible for **the total performance** of the organization in question. This share ranged markedly from 38 % (among technology-intensive contractors) to 100 % (among building and civil designers). The remaining 28 respondents, or 37 %, were either members of the management team with functional responsibilities (29 %) or other key persons (8 %), (Fig. 4).

The survey data was collected with the help of five 11-page questionnaires tailored to each of the business groups. The structured questionnaires consisted of 50 individual, mainly closed-ended questions. Each questionnaire was divided into **three main parts** including the following **primary variables** (specified according to related subconstructs):

- **Contract-specific competitiveness** (constructs C1-C4). **Perceived requirements** for superior competitiveness, by targeted contracts, set by primary client groups and competition met in a company's primary markets in the year 1996. **Perceived own competitiveness** of a company (versus that of the major competitors).
- **Business-specific competitiveness** (constructs B1-B4). **Perceived requirements** for superior competitiveness set by the target client base and related competition in the year 1996. **Perceived own competitiveness** of a company (versus that of its primary competitors).

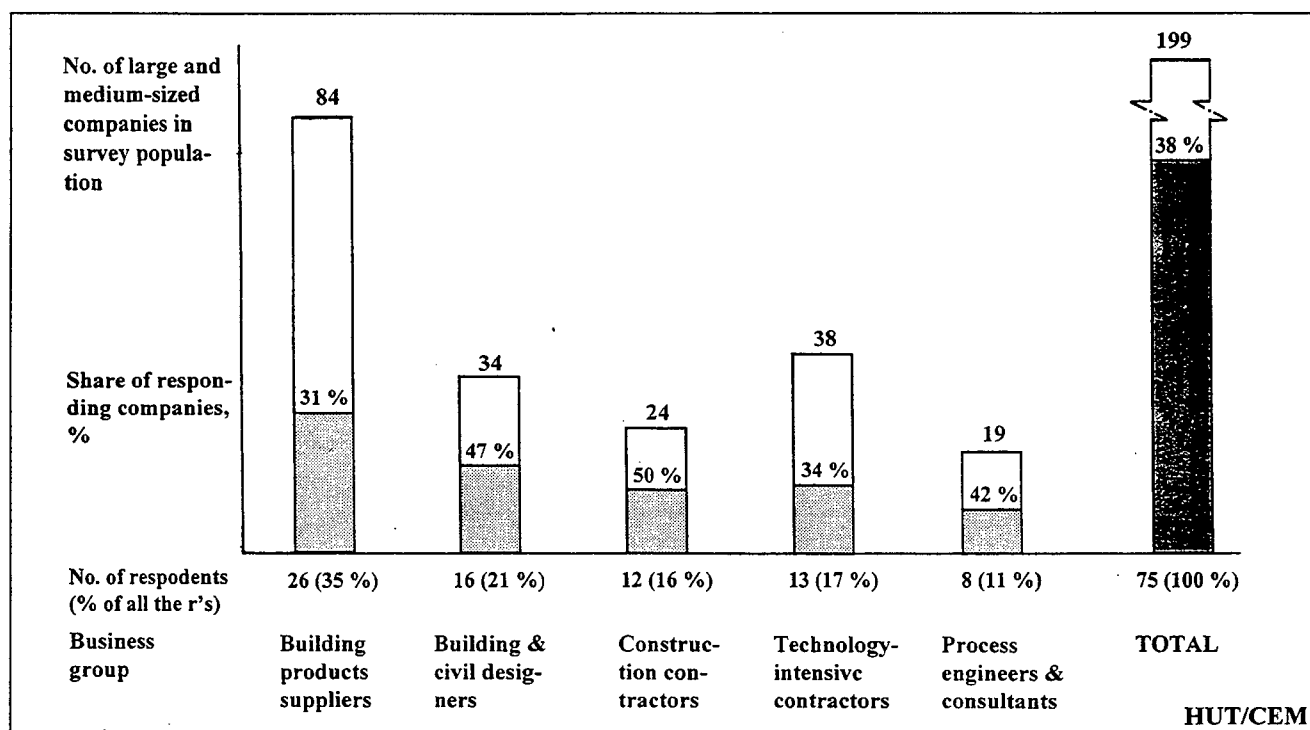


Figure 2. Number of the companies responding in the five business groups and their share of the survey population based in Finland (by February 1997). (n = 75)

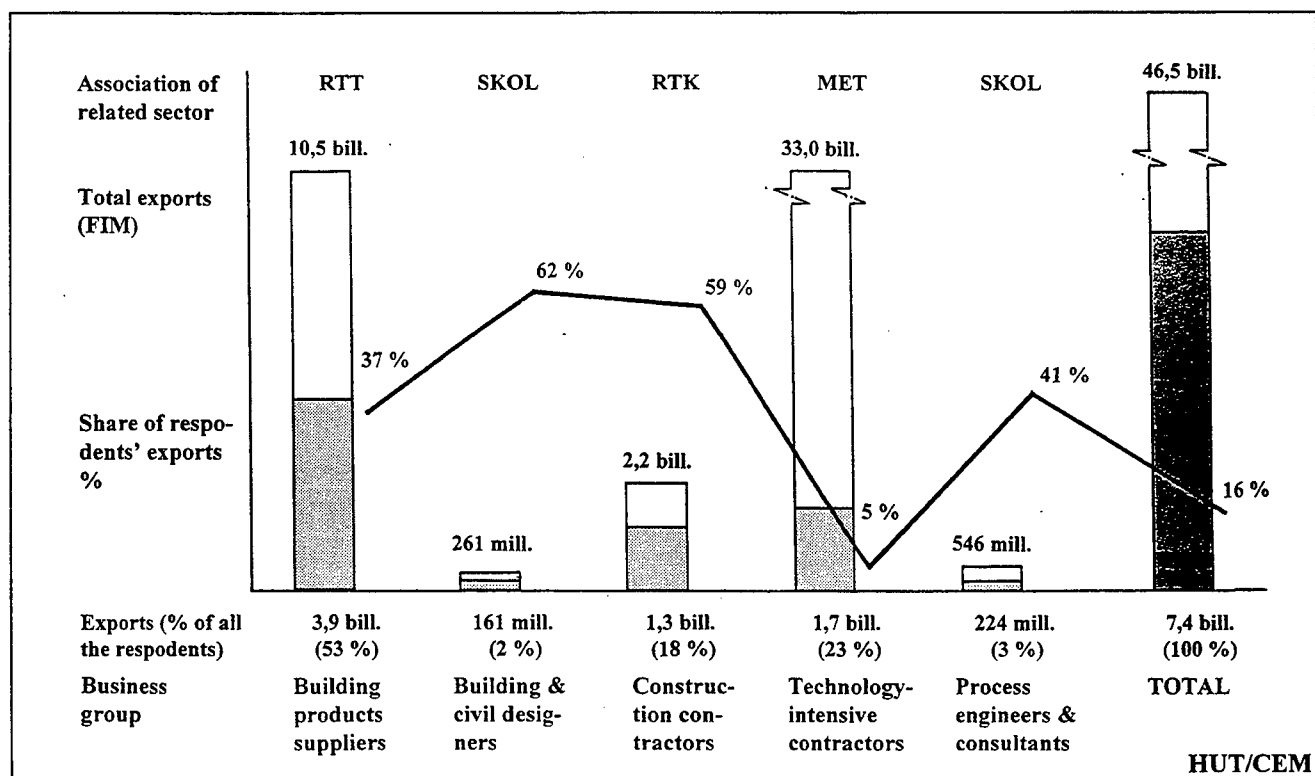


Figure 3. Exports value of the 75 companies responding in the five business groups and their share of the total population's exports from Finland in the year 1996.

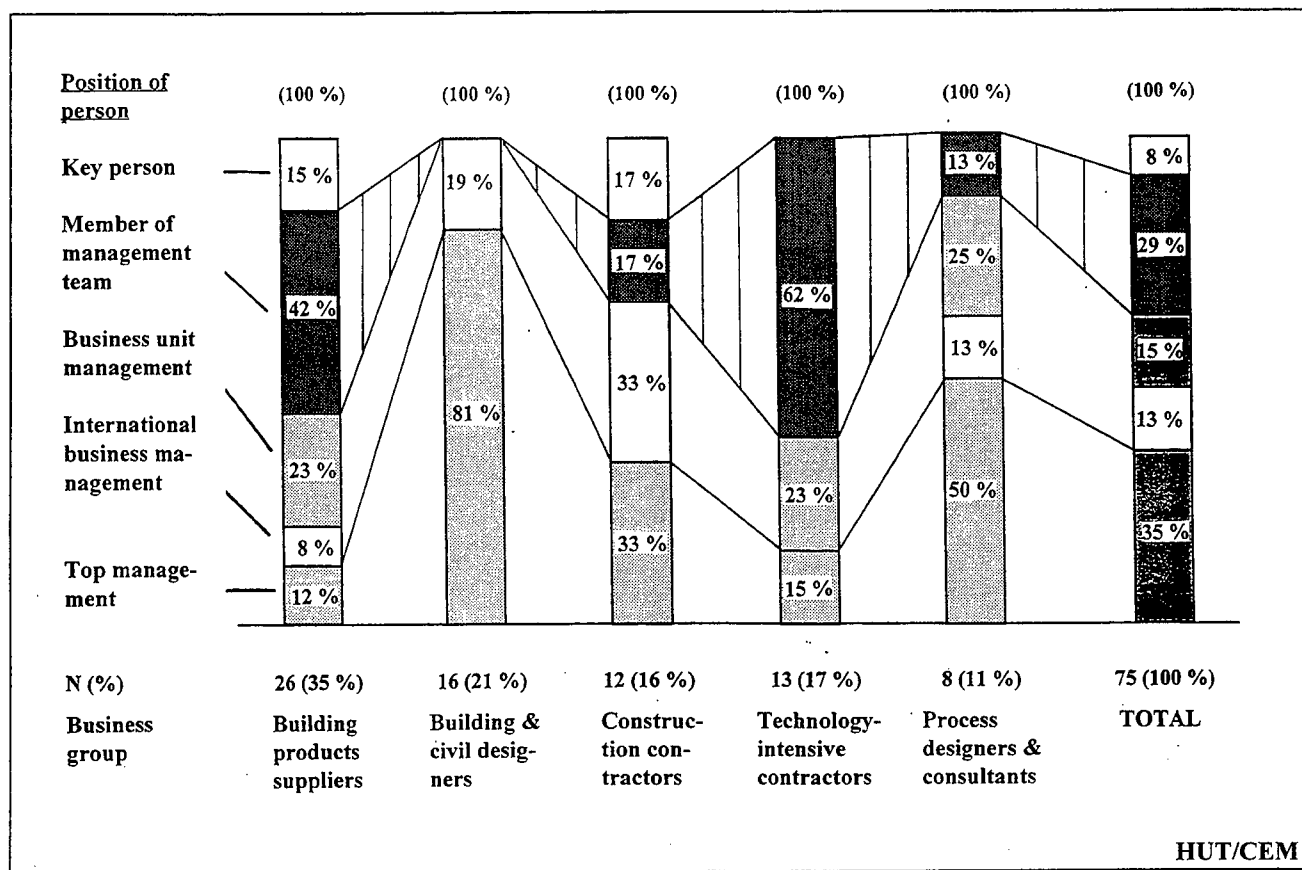


Figure 4. The organizational positions (responsibilities) of the 75 persons who responded in the five business groups (during Aug 1996 - Feb 1997).

- Company-level competitiveness** (constructs T1-T4). Ownership and organization type. **Realized internationalization** (status in the years 1995-1996) and **planned internationalization** (aimed status in the year 2000) in terms of size and profitability of business(es), personnel and their internationalization degrees. Primary businesses, markets and client groups. **Perceived requirements** for the superior company-level competitiveness set by competition met in a company's primary foreign markets in the year 1996. **Perceived own competitiveness** of a company. See the related questions 1-4, [Annex 2](#).
- Investments in international competitiveness** (subconstructs of B1 and T3-T4). Size and targeted areas of the investments in a company's international competitiveness in the year 1996. Actual targets, programs, projects and tasks for **improving a responding company's international competitiveness** in the year 1996. Realized (in the years 1991-1996) and planned (in the year 1997) use of management and development tools. Performance related to the primary tools used. Realized (in the years 1995-1996) and planned (in the years 1997-1998) use of outside consultants, research organizations and other experts.

5. **REALIZED INTERNATIONALIZATION PATTERNS AS DETERMINANT FOR LARGE AND MEDIUM-SIZED COMPANIES' GOAL-SETTING AND FUTURE COMPETITIVENESS - BY FIVE BUSINESS GROUPS BELONGING TO FINLAND'S CAPITAL INVESTMENTS CLUSTER**

In this section, **the likely manifold impact** of the realized and planned internationalization patterns of Finland's capital investment cluster on the large and medium-sized companies' goal-setting and future competitiveness are proposed, by answering the following three questions:

What are the major similarities and differences regarding these companies' internationalization patterns in the five business groups?

To what extent do the realized internationalization patterns enable (as bases and opportunities) and/or limit (as boundaries) the companies' goal-setting towards the year 2000?

What requirements does the realization of the companies' targeted goals, or the goals proposed here, set on the companies' international competitiveness?

The related empirical results of the mail survey concerning the realized (in the year 1996) and planned (up to the year 2000) internationalization patterns among the 75 responding companies are presented (see the related parts of the questionnaire, Annex 2). These results serve as the basis for deriving **the fifteen types of impact** and generalizing these (as a set of propositions) initially to the survey population as a whole (Bacharach 1989).

5.1 **Nationality of ownership**

The survey population included 199 companies. Since the beginning of the 1990s, appr. 15 % of the companies have become wholly or partly foreign-owned. In December 1996, a total of 25 % were wholly or partly foreign-owned.

Among the 75 responding companies, this increasing trend of foreign ownership is not as much true. The minority 12 % are wholly or mainly foreign-owned, and the majority 88 % were wholly or mainly Finnish-owned. **The wholly Finnish-owned companies** formed a majority of 65-94 % in the four business groups. But this share of the wholly Finnish-owned companies was only 15 % among technology-intensive contractors. 62 % of the latter were mainly Finnish-owned, 15 % mainly and 8 % wholly foreign-owned (Fig. 5).

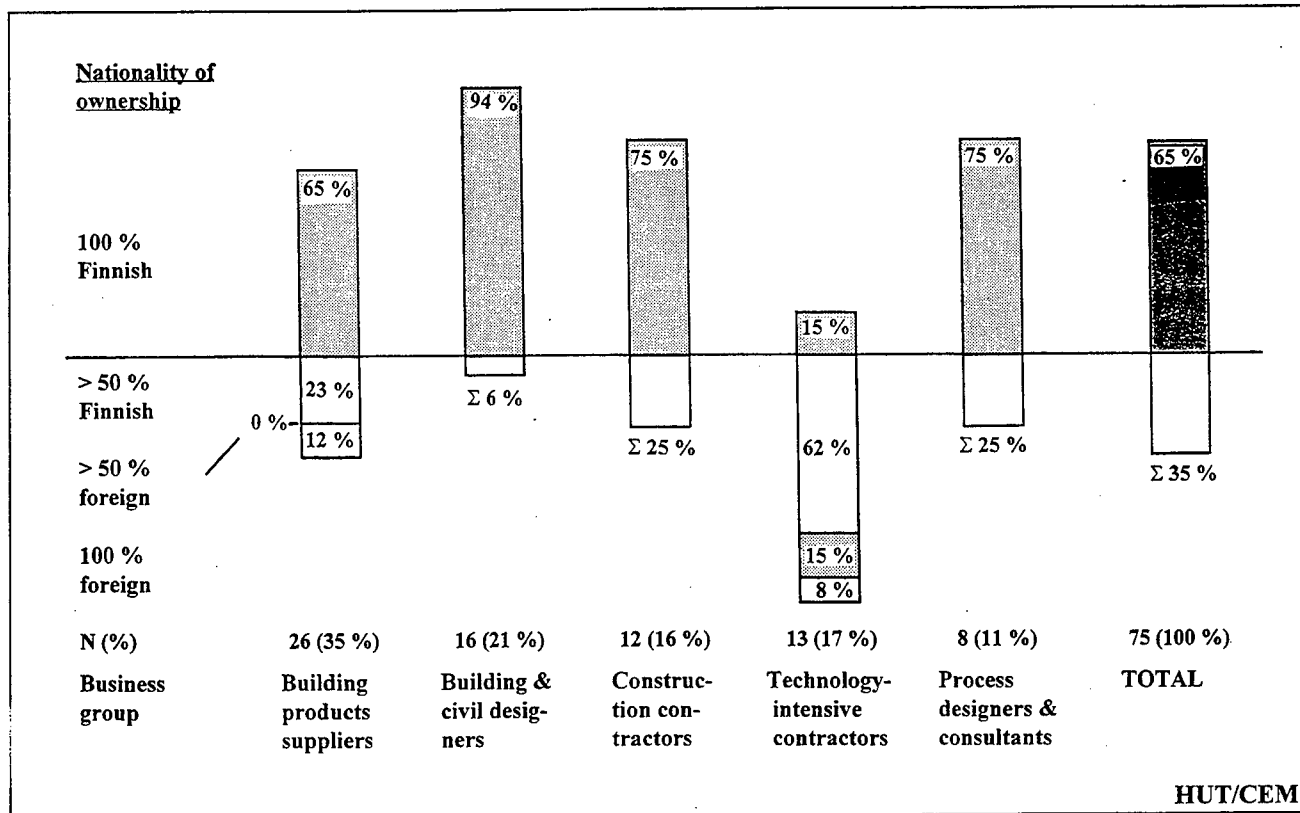


Figure 5. Finnish and foreign ownership of the 75 responding companies in the five business groups (as of December 1996). (n = 75)

The proposed impact is derived from these findings and generalized to the survey population (companies temporarily owned by bankrupted estates and banks are excluded):

P1: (a) The Finnish owners' commitment, capabilities and financial resources enable any large or medium-sized company to invest in the primary businesses' competitiveness enough in order to attain its next logical internationalization degree at any given point in time. (b) Only a few owners will allow radical goal-setting, e.g. they will be able and willing to take risks. On the other hand, these owners' resources are so limited or small that this does not allow a company in question to grow in its primary business(es) up to the global or European-wide scale (without major involvement of foreign ownership and/or other means to attract foreign financiers).

P2: The foreign owners' commitment, capabilities and financial resources enable, in principle, any large or medium-sized company to invest in the primary businesses' competitiveness enough in order to attain its targeted internationalization degree at any given point in time. In the case of the large foreign parent companies, however, the overall, often globalized goal-setting means that the internationalization goals of a Finnish subsidiary or joint venture in question may be:

- (a) up to the global or European-wide goals (assuming the global role),
- (b) limited to cover foreign markets around the Baltic Sea (playing the regional role), or
- (c) non-existent or limited to in-house exports (according to the given local role).

5.2 Organizational (in)dependence, coupled with ownership

In the 1980s, acquisitions and mergers (along genuine growth) took place frequently **among the survey population**.. During the 1990s, the construction sector, in particular, suffered from the deep recession in the Finnish markets. This led, among other things, to the bankrupting of several companies (e.g. Novera Group Oy and Haka Oy), successive mergers, disinvestments (involving also foreign buyers) as well as to the groups of companies being owned temporarily by banks. **The share of dependent companies** (sold to, bought by or originally subsidiaries and units of corporations) was appr. 60 % in December 1996. Naturally, this dependence can also be positive.

Among the 75 responding companies, the share of dependent companies is at the same level, 56 % on average. However, the dependence degree varies markedly, from 12 % (among building and civil designers) up to 84 % (among technology-intensive contractors), (Fig. 6).

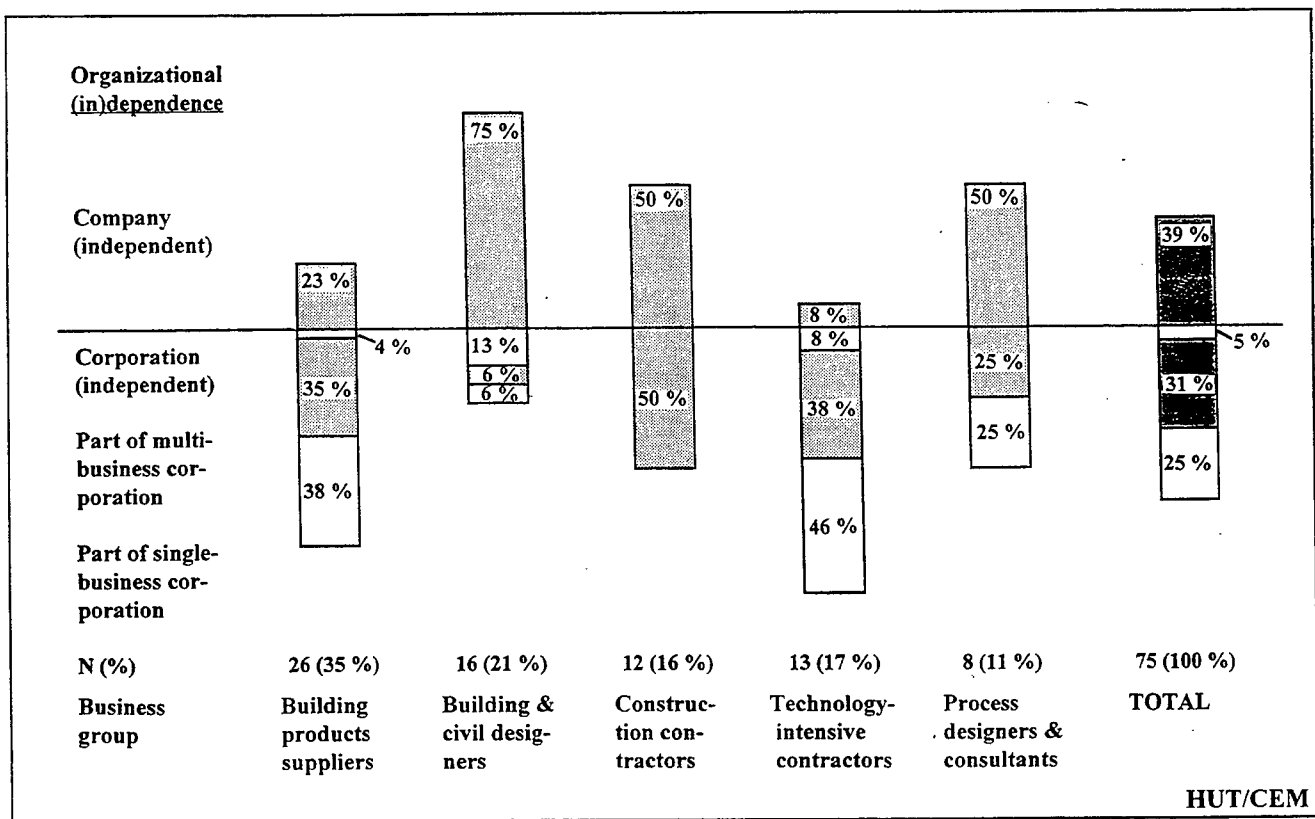


Figure 6. Organizational (in)dependence of the 75 responding companies in the five business groups (as of December 1996).

The **proposed impact** is derived from this current (in)dependence status among the responding companies, coupled with the current nationality of the companies' ownership, and generalized to the survey population as follows:

- P3:** Independence is first coupled with the Finnish ownership only. Often the top managers are single owners, co-owners, or partners. Thus, **any independent company's management** (plus its owner) is solely to be praised for the success or to be blamed for failure of their company. (Non-)superior international competitiveness is based solely on a company's single or several technology platforms for core competencies (construct T3), related core solutions (B3), and on targeting a wide, or focusing on a narrow client base as well as on solving these clients' investment needs (C3), by business. Accordingly, the attention of the top management is focused on a single (in the case of companies) or several (in the case of corporations) primary businesses.
- P4:** By definition, **the management of a dependent company, division or unit** enjoys synergic benefits and/ or suffers from weaknesses due to being a part of the Finnish- or foreign-owned corporation (or company). These in-house dependencies may have:
- (a) one or more enabling and/or limiting major impacts on its business and competitiveness, or
 - (b) no impact at all.

In addition, the dependencies and impacts may change as planned or change abruptly due to the related business decisions made at an upper level.

5.3 Company and business size

Among the survey population, the majority related to the construction investments lost their company- or business-specific size during the early 1990s, and these companies haven't even regained that previous size by the year 1996. Instead, the minority related to the technology-intensive investments have grown abroad, mainly through foreign acquisitions (only a few through genuine growth). The current size distribution (as of the year 1996) is roughly similar to that of the responding companies.

The 67 responding companies are divided into four size categories based on the turnover or invoicing in the year 1996 (Fig. 7). On average, 49 % of the companies belonged to the smallest category of FIM 10-100 mill., 24 % to the category of FIM 101-500 mill., 18 % to the category of FIM 0.5-1.0 bill. and 9 % to the largest category of over FIM 1.0 bill. By business group, the size distribution of the two smallest, designers and consultants' groups (their annual invoicing was FIM 25-57 mill., on average) naturally differed markedly from the other three business groups (their annual turnover was FIM 410 mill. - 1.5 bill., on average).

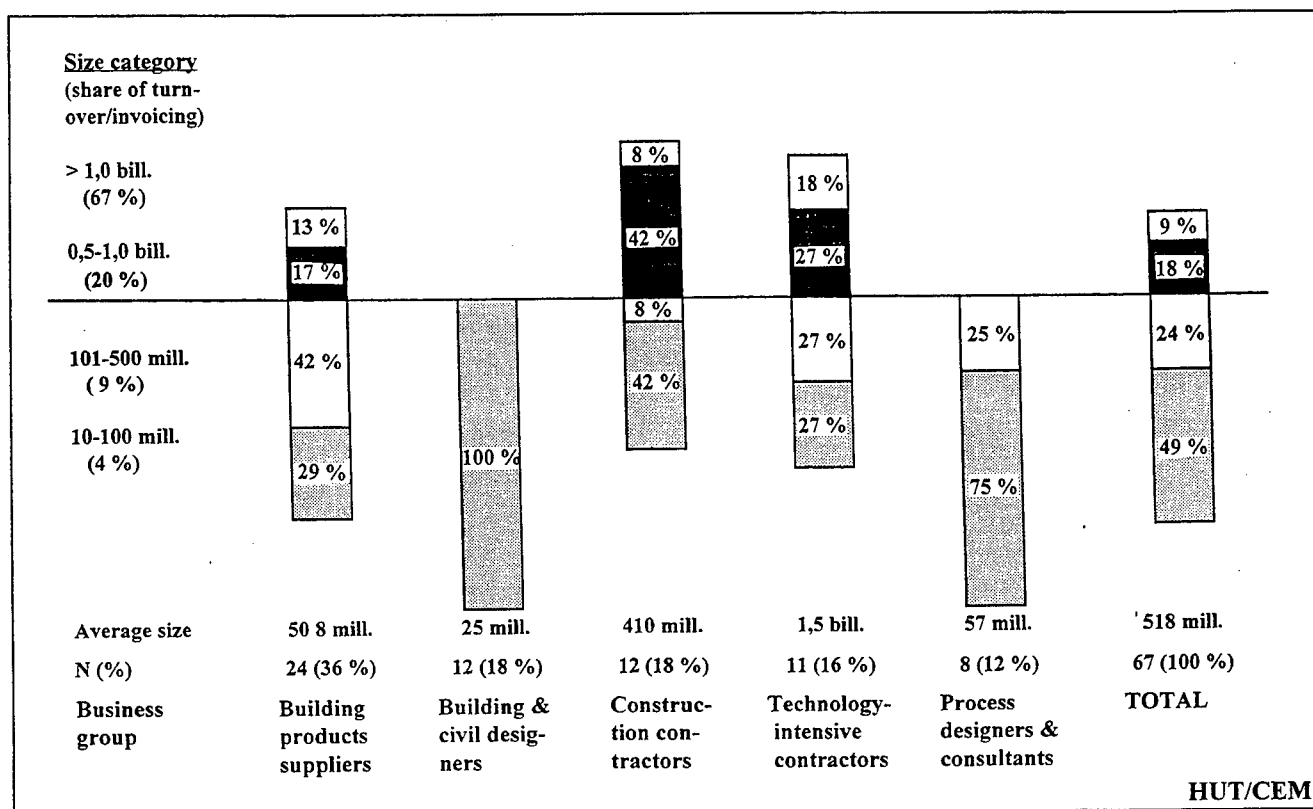


Figure 7. Company or business size of the 67 responding companies, based on the turnover or invoicing (totalling FIM Σ 34.2 billion) in the five groups in the year 1996.

The **proposed impact** is derived from the current size distribution in the year 1996, by business group, coupled with market size, and generalized to the survey population as follows:

P5: When a company targets European-wide, and then global markets, (a) belonging to the largest category (of over FIM 1.0 bill. = USD 0.21 bill. or ECU 0.17 bill.) means that even these companies are only the medium-sized ones on the European scale. This involves a risk of becoming "stuck in the middle". Thus, **in the case of the largest businesses** (coupled with the Finnish ownership), the significant growth can be attained by the top and business management in question mainly through a series of major acquisitions and/or new establishments in the primary foreign markets. This must be preceded by equal improvements in Business Opportunities Utilization Capability (T2), Business Processes Framing Capability (T4) and Business Management Capability (B1), e.g. the management must first Europeanize or globalize themselves. Similarly, the owners must learn to attract and to deal with foreign ownership, and other foreign financing sources (improving Company Architecture Capability, T1).

(b) However, the high Europeanization, or globalization, degree of the management, ownership and financing is less necessary in the case of those companies whose aim it is to Europeanize, or to globalize themselves, **albeit by operating in narrow segments and by focusing on foreign contracts of manageable size** (< 5 % of company size) and/or scope (own core competencies cover > 70 % of the contract scope).

P6: When a company targets the markets around the Baltic Sea:

- (a) For any of today's companies or businesses, size may enable it to improve its regional competitiveness in the targeted markets.
- (b) On the other hand, a particular size neither protects nor prevents a company from losing its business, partly or totally (especially in the chaotic Russian markets).

5.4 Internationalization degree of market base

Among the survey population, the majority within the three business groups related to construction investments divested their foreign subsidiaries in the early 1990s. That is they had to give up their localized foreign market bases mainly due to the impact of the recession at home. By the year 1996, only a few of these companies had relocated themselves (partly within the same, partly new markets) abroad. Overall, the current market size distribution is similar to that of the responding companies.

The 67 responding companies are divided into four market base categories based on each category's majority share (> 50 %) of the turnover or invoicing in the year 1996 (Fig. 8). On average, 50 % of the companies were Finnish market based, 35 % export market based, only 9 % localized (via subsidiaries) foreign market based, and 6 % combined, export + localized foreign market based. The localized foreign market bases belonged only to the minority 17 % of building product suppliers and to the other 18 % of technology-intensive contractors. 91-100 % of the companies in the other three groups were Finnish or export market based.

The proposed manifold impact is derived from the realized internationalization degree of market bases and generalized to the survey population as follows:

P7: In the businesses based on the capital investment markets, the success is ultimately based on a company's contract- or project-specific capabilities (C1-C4). In addition to this, a targeted internationalization degree of market base will have a **major impact** on a company's future as follows:

- (a) A company which targets preferably (or is restricted to) **the Finnish market** will tie its fate to its future competitiveness and competitive developments at home. Minor, sporadic exports may not serve as a buffer for the next recession.
- (b) A company which targets preferably **the export markets** will tie its fate more widely to its future competitiveness in each targeted export market. A high client base capability (B2) will be needed in order to manage the market- and client-specific risks.
- (c) A company which targets preferably **the localizing in foreign markets** will tie its fate to its future localized, decentralized and networked competitiveness. The three high capabilities are needed, related to company architecture (T1), core solutions (B3) and processes (B4) for managing the synergic network across markets.

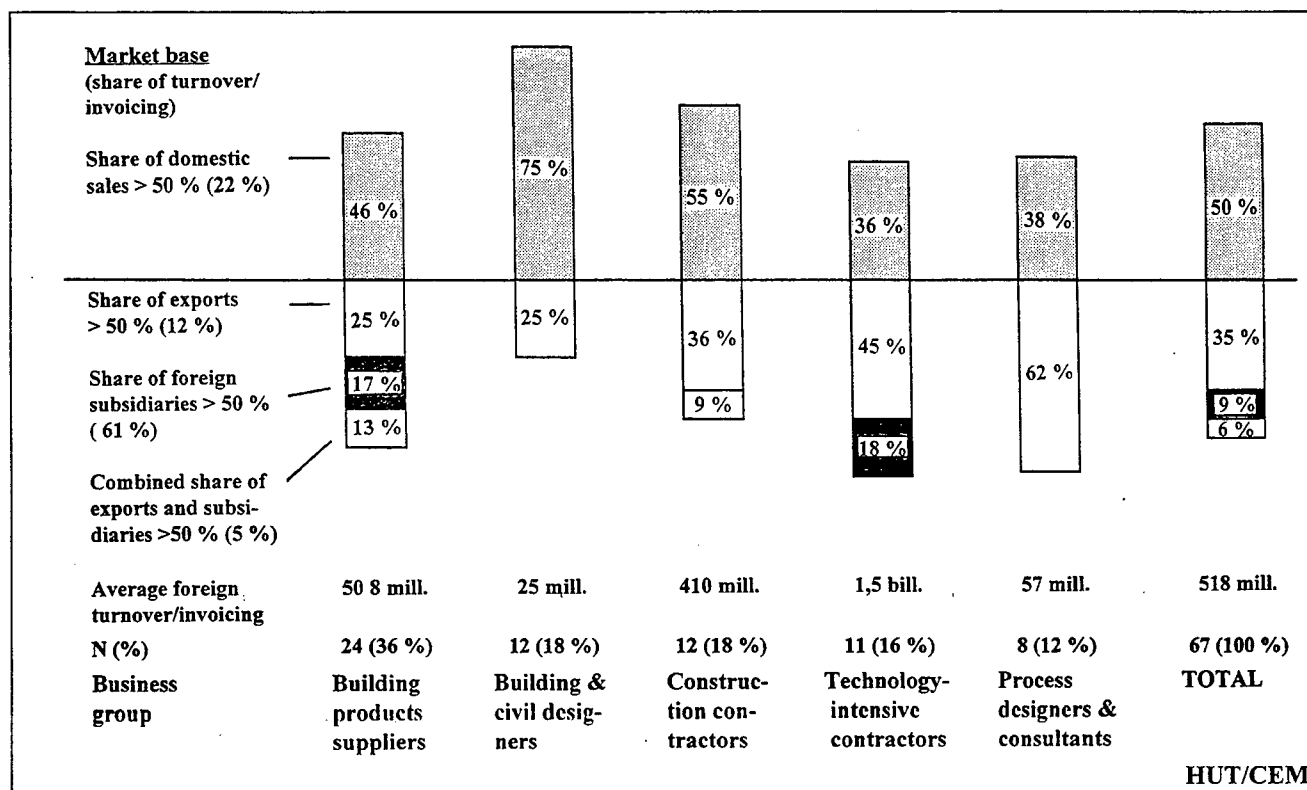


Figure 8. Four market bases and their share of the 67 responding companies' turnover or invoicing (totalling FIM Σ 34.2 billion) in the business groups in the year 1996.

5.5 Geographical pattern of market base

Among the survey population, the majority in the three business groups related to construction investments had to give up their European-wide or even wider overseas patterns due to the recession at home in the early 1990s. Many companies could not even hold their positions around the Baltic Sea (incl. Russia). By the year 1996, only a few leading companies have revived their pattern around the Baltic Sea plus focused on the selected CIS and Asian markets. Instead, the majority of the other two groups related to technology-intensive investments have been able to develop their patterns through more peaceful times. Overall, the current distribution of the geographical pattern is similar to that of the responding companies.

The 74 responding companies are here divided into five categories according to the planned geographical pattern by the year 2000 (Fig 9). On average, 31 % of the companies aimed at a European-wide pattern with emphasis on the Central Europe, Western Europe or both. 22 % aimed at an overseas pattern where, besides Europe, their emphasis was on Australasia, other developing countries or Northern America). 20 % aimed at a pattern around the Baltic Sea plus selected

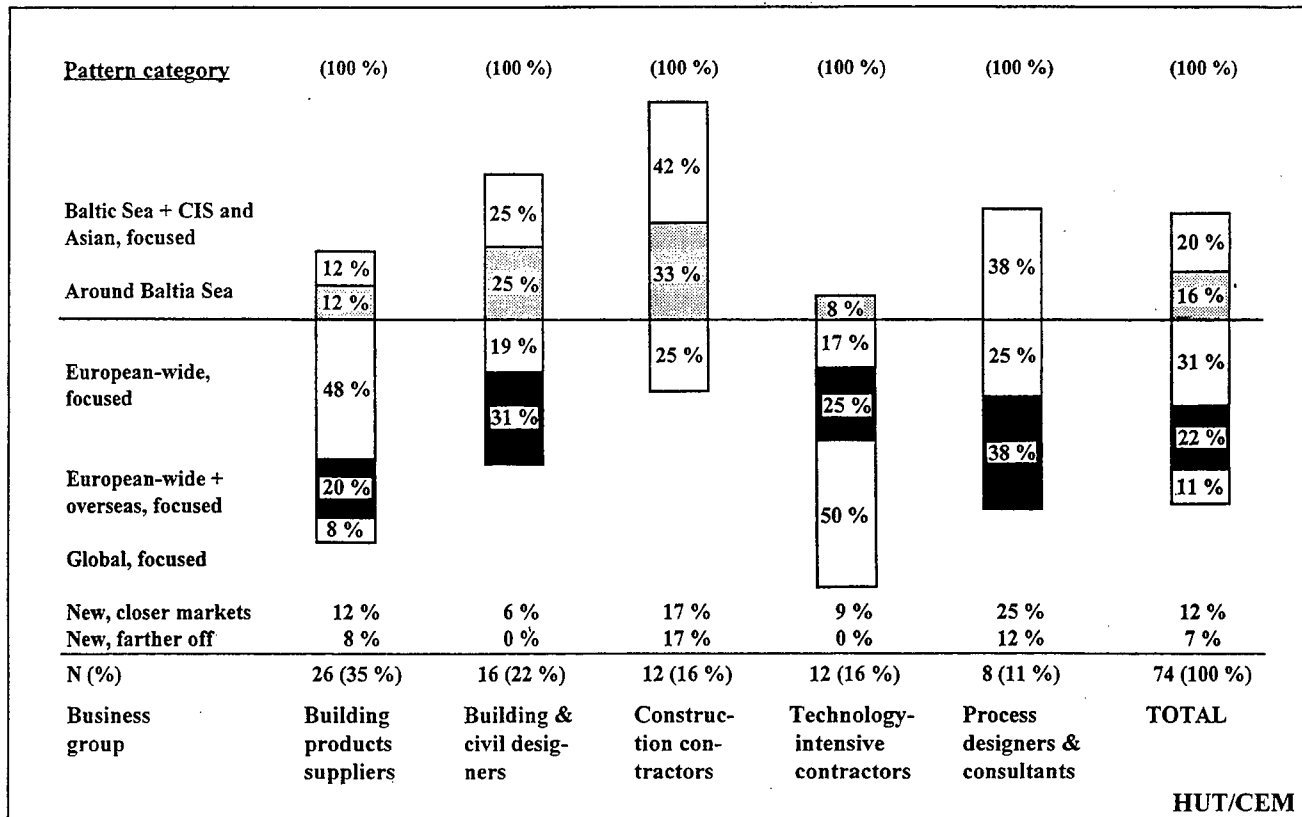


Figure 9. Planned (to the year 2000) geographical pattern of market base of the 74 responding companies in the five business groups. The realized (in the year 1996) pattern is the same among 80 % of the companies. Only 12 % target new primary markets farther off and 8 % closer than the current market base.

CIS and Asian markets. 16 % aimed at a pattern around the Baltic Sea only, and finally 11 % aimed at a global pattern (including markets on at least three continents).

In the businesses based on the capital investment markets, the companies cannot afford to invest in local presence that would cover all the past, current and new potential countries or markets, within their overall geographical pattern. This can be kept in mind when considering the proposed impact which is derived from the current distribution of the responding companies' geographical patterns, and generalized to the survey population as follows.

P 8: When a company targets a European-wide, overseas or global pattern, equal improvements must be preceded in all the four company-level capabilities, namely Company Architecture Capability (T1), Business Opportunities Utilization Capability (T2), Technology Platform Capability (T3) and Business Processes Framing Capability (T4). In addition, a company in question must stretch all its current business-specific (B1-B4) and contract-specific capabilities (C1-C4), as well as to acquire the new ones respectively, before each major targeted enlargement in the geographical pattern.

- P9:** When a company aims at operating **around the Baltic Sea only**, it can ensure success by contract (in the short term) where only high contract-specific capabilities (C1-C4) are called for. But increasingly a company in question must globalize its Core Business Processes Capability (B4), starting with procurement and logistics subcapabilities, in order to stay competitive in tight "effectiveness competition".

5.6 Growth rate, coupled with size

Among the survey population, all the companies belonging to the three business groups related to construction investments experienced stagnation due to the recession at home in the early 1990s. In that medium term, the growth was only realized as the result of mergers and/or acquisitions (arranged typically by banks). Instead, many companies in the other two business groups have enjoyed healthy growth by the year 1996. But it would be only guessing to say anything about the survey population's future growth up to the year 2000.

The 67 responding companies are first divided into the same four size categories (as in Fig. 7). Each category is then divided into two growth categories using the limit of $> 10\%$ p.a. (based on turnover or invoicing). On average, 46 % of the companies aimed at growing $> 10\%$ p.a. up to the year 2000. 25 % (17/67) of the companies aiming at this higher growth belonged to the smallest size category, 9 % to the second smallest category, 10 % to the second largest category and only 3 % to the largest size category (Fig. 10). Typically, if all the 67 companies' goals would be realized (as stated in questionnaires), **these 3 % of the companies** which are among the largest ones and aiming at the superior growth, would have a share of 61 % of the total targeted business value of FIM 58.7 bill. in the year 2000 (their share was already 49 % of the total value of FIM 34.2 bill. in the year 1996).

In addition, the major implications of the realized growth can be illustrated as follows. **46 % of the companies - aiming at the high growth** (of $> 10\%$ p.a.) - had a share of 66 % of the total business value in the year 1996. If all the 67 companies would achieve their stated goals up to the year 2000, this share in question would increase up to 75 % of the total business value to be realized during the next four years.

By business group, the average share of these companies aiming at the high growth (of $> 10\%$ p.a.) ranged significantly from 33 % (among building and civil designers) up to 64 % (among

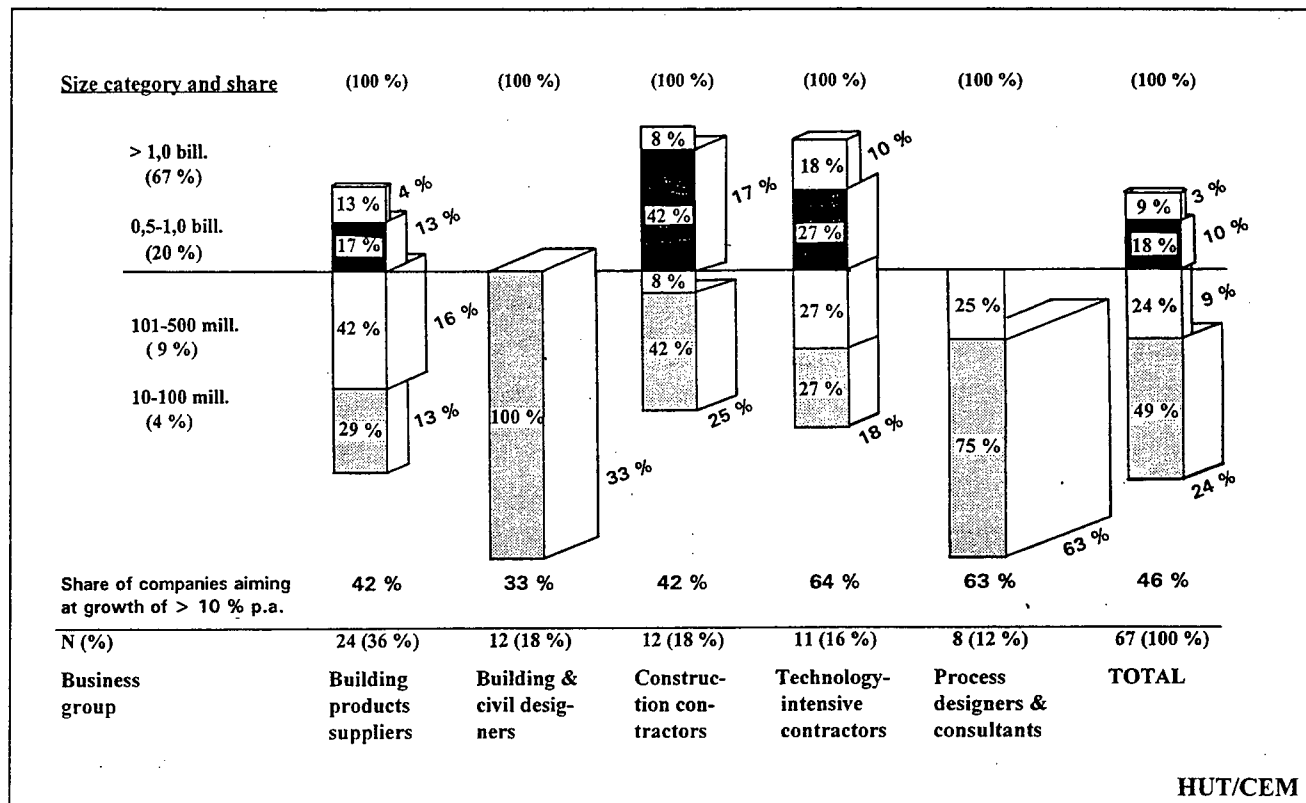


Figure 10. Share of the companies aiming at growth > 10 % p.a. during the years 1997-2000 among the 67 responding companies by size category and business group. The companies' aims totalled FIM Σ 58.7 billion by the year 2000, a rather high growth of 18 % p.a.

technology-intensive contractors). When 63 % of process designers and consultants also aim at higher growth, this supports the initial proposition of major differences between the three business groups related to construction investments (recovering from the domestic recession) and the two other groups based on technology-intensive investments.

The proposed impact is derived from the distribution of the responding companies's planned growth, coupled with the company size distribution, and generalized to the survey population. In principle, growth is here considered as one of the necessary conditions for a company's sustainable competitiveness, and no growth or decrease in business volume as having a negative impact on a company in question. Thus, a company's alternative modes for the growth are also proposed (P11):

- P10:** The 80/20 rule is here modified concerning the large and middle-sized companies belonging to Finland's capital investments cluster as follows:
- (a) **10 %** of this population are **large companies aiming at > 10 % growth p.a.** Their share is **> 50 %** of the total business value (as annual turnover or invoicing).
 - (b) **30 %** of this population are **large and medium-sized companies aiming at > 10 % growth p.a.** Their share is **> 75 %** of the total business value.

P11: In the five distinct businesses based on foreign capital investment markets, a company's healthy growth will be enabled, but by no means secured, by adopting one or more of the following modes for the growth in any size category:

- (a) By increasing **the targeted contract size**. It is the size of the investment solution, system, product or service to be leveraged. This mode must be based on and preceded by an equal improvement in the contract-specific capabilities (C1-C4), particularly related to management of bigger and more complicated value-leveraging processes (C4).
- (b) By increasing **the number of the targeted contracts** (of successful sales). This mode must be based on and preceded by an equal increase in the level of the contract-specific capabilities (C1-C4), and in the Core Business Processes Capability (B4).
- (c) By increasing **the number of targeted clients** (or client segments). This mode must be based on and preceded by equal improvements in and additions to the level of the Client Base Capability (B2), in particular, and the contract-specific capabilities (C1-C4).
- (d) By increasing **the number of targeted markets** (or market segments). If the markets to be added are of the same type as the current ones, this must be based on and preceded by an equal increase in the level of the business-specific capabilities (B1-B4) and contract-specific capabilities (C1-C4). If a new kind(s) of market is to be added, this must be additionally based on and preceded by equal improvements in the Business Opportunities Utilization Capability (T2), and in all the business- and contract specific capabilities.
- (e) By increasing **the number of investment solution types** (design, system, product or service types). This mode must be based on and preceded by equal improvements in the capabilities related to investments solutions (B3 and C3), and in the capabilities ensuring modified, effective, error-free leveraging processes (B4 and C4).
- (f) By increasing **the number of businesses** (or strategic business areas). This mode must be based on and preceded by equal improvements in and additions to the level of the Business Opportunities Utilization Capability (T2), the Technology Platforms Creation Capability (T3) and the Business Processes Framing Capability (T4). In practice, this means the acquisition and/or creation of distinct new business-specific capabilities, and new contract-specific capabilities.

5.7 Financial performance, coupled with ownership and in(dependence)

Among the survey population, the financial performance has been negative, on average, in the three business groups related to construction investments during the domestic recession in the years 1991-1994. By the year 1996, the majority have recovered. Further, the majority of the other two groups have realized positive financial performance in the years 1991-1996. Overall, there are more companies in the population still making losses than among the responding companies.

The 63 responding companies are divided into four categories based on their operating income's share (%) of turnover or invoicing in the year 1996 (Fig. 11). On average, 62 % of the companies had satisfactory operating income (0-5 %), 25 % fairly good (6-10 %) and 10 % very good (> 10 %). Only 3 % had made losses. The best performers were among technology-intensive contractors (18 %) and building products suppliers (17 %). The worst performers were also among the building products suppliers (4 %) and construction contractors (9 %).

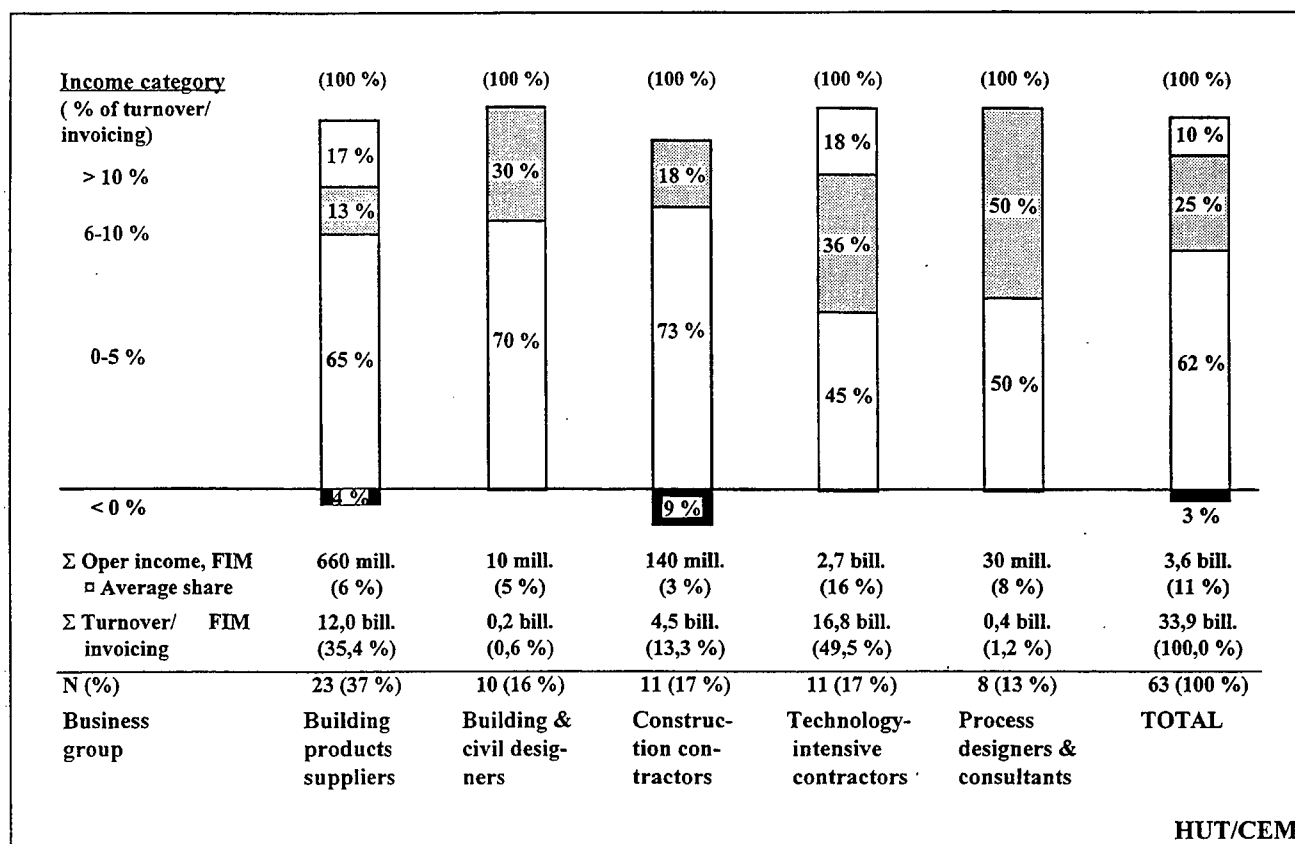


Figure 11. Realized financial performance of the 63 responding companies in the five business groups in the year 1996. 85 % are the companies ("Oy") that mentioned their final operating income (after extraordinary income/expenses, reserves and taxes). 15 % are profit centers (of "Oy") that mentioned their operating profit before depreciation.

The proposed impact is derived from the current profit/loss distribution among the responding companies, coupled with ownership and (in)dependence, and generalized to the survey population as follows:

P12: Among the independent, Finnish-owned companies:

- (a) A profitable year(s) enables, in principle, a company to invest in its international competitiveness, provided that the top management and owners want this.
- (b) A year or more with loss means that a company in question cannot afford investing in its future, and the top management are occupied with ensuring that the crucial contracts will be won and finished profitably. When the company fails to make profit in two or more consecutive years, the owner(s) and/or other financiers (banks) will decide to replace the management, sell the company (or business) or liquidate it.

P13: Among the dependent, Finnish- or foreign-owned companies:

- (a) A profitable year(s) enables, in principle, a company (subsidiary, joint venture, division, or unit in question) to invest in its international competitiveness, provided that the (parent) company as a whole is not making losses or prioritizing other investments to which the profits will be allocated.
- (b) A year or more with loss does not always mean stopping the investments in a company's (division's) competitiveness because, for instance, the upper management may decide to invest in this business based on their interests in the longer term. However, the upper management starts considering the replacement of the manager(s) in question already after the first year with losses. In the final analysis, when even the new management fails to make profit, the upper management (or the board of shareholders) will decide to sell or liquidate the company, or business, in question.

5.8 Investments in international competitiveness

Among the survey population, the three business groups related to construction investments couldn't afford any kind of major investments during the recession years 1991-1994. By the year 1996, the minority had been able, in principle (due to the recent profitable years), to invest modest amounts in their international competitiveness. The majority of the other two groups related to technology-intensive investments have, at least in terms of their positive financial performance, had the opportunity to consider investing in their international competitiveness in the years 1991-1996.

The 62 responding companies are divided into five categories based on size of the investments in their international competitiveness in the year 1996 (Fig. 12). On average, 52 % of the companies **invested** only up to FIM 1,0 mill., the other 42 % invested FIM 1-10 mill. and only 6 % invested > 10 mill.. The best financial performers, among technology-intensive contractors (20 %) and

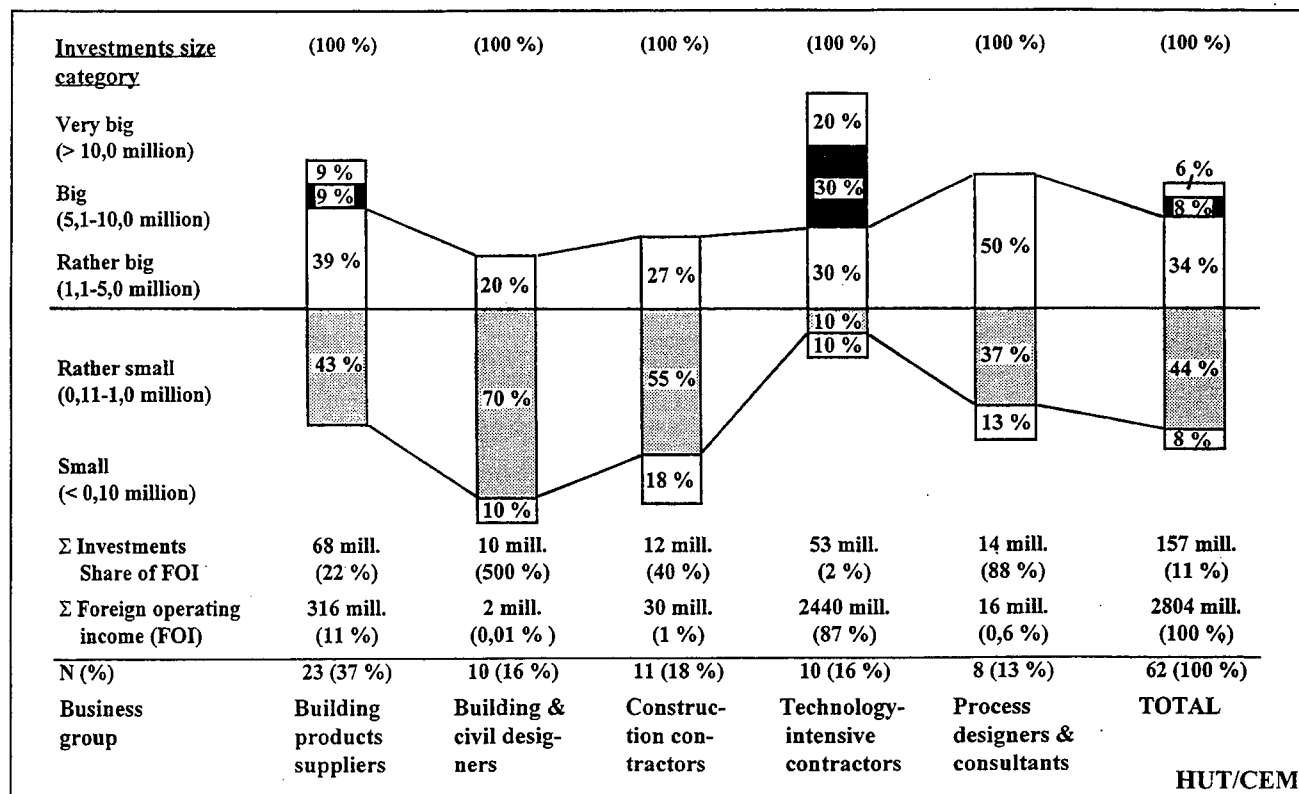


Figure 12. Size of the investments in international competitiveness among the 62 responding companies in the five business groups in the year 1996. The companies' investments totalled FIM Σ 157 million (at a minimum). The "greenfield" establishments and acquisitions abroad are excluded.

building products suppliers (9 %), also invested the most. On average, **the share of these investments** was 11 % of the total foreign operating income in the year 1996. The share ranged markedly from 2 % (among large technology-intensive contractors) up to 500 % (among building and civil designers). The building and civil designers seem both to perceive realistic business opportunities abroad and to have generated enough total operating income in the years 1994-1996, in order to invest in utilizing these opportunities. The same applies to process designers and consultants, although on a smaller scale. All the figures represent the minimum amounts of investments because the "greenfield" establishments and acquisitions abroad are excluded.

A company's investments in its international competitiveness are here assumed to be one of the necessary conditions for its sustainable success. Thus, **the proposed impact** is derived from the realized investment distribution among the responding companies, and generalized to the survey population as follows:

P14: Planned and successfully realized investments in international competitiveness, at all the three levels, enable a company to set incremental or even radical goals for its internationalization process and to try to realize these goals. There is no guarantee, but when competitiveness is continuously improved, a company in question is better able to sustain profitable operations in the targeted foreign market segments in the longer term. At the very least, a company must invest in its contract-specific competitiveness (capabilities C1-C4).

P15: Small investments, or no investments at all, in international competitiveness means that a company in question will succeed at best in the short-term, that is by winning single contracts through competitive bidding settings abroad, or by serving a major domestic client (investor) well also in the implementation of his investments abroad. But in this way, the management in question is not accomplishing anything that would ensure its success in the longer term.

6. CONCLUDING REMARKS ON NATIONAL INDUSTRIAL, TECHNOLOGY AND INTERNATIONALIZATION POLICIES FOR STRENGTHENING FINLAND'S CAPITAL INVESTMENTS CLUSTER

There are major similarities and differences concerning the realized and planned internationalization among the large and medium-sized companies belonging to Finland's capital investments cluster. These patterns, or characteristics, serve as the bases for considering national industrial, technology and internationalization policies.

The three business groups related to construction investments have suffered from the deep recession in the domestic markets. During the years 1991-1994, the internationalization process slowed down, stopped, or was turned around into the disinternationalization process among the majority of building products suppliers, building and civil engineering designers as well as construction contractors. Thus, by the year 1996, **the internationalization degree of market base** is, on average, still too low to enable the companies to compensate the next downturn in the domestic markets with growth in the targeted foreign markets.

Instead, **the two other business groups related to technology-intensive investments** were less impacted by the recession in the domestic market. The majority of technology-intensive contractors as well as of process designers and consultants have been able to proceed to realize their internationalization plans. In the year 1996, their realized internationalization degree was, on average, markedly higher than in the other three business groups which means that these companies are more capable of compensating the negative impact of the next downturn in the Finnish markets, or as a matter of fact, of any future decline in one of their major targeted foreign markets.

Finally, the similarities and differences of the internationalization patterns among the five business groups are emphasized. In addition, **a set of related industrial, technology and internationalization policies** is initially suggested in order to strengthen Finland's capital investments cluster as follows:

- (1) **The Finnish ownership sets the upper limit for the targeted size and internationalization degree** of an independent company, and thus also the boundaries for the market positions which Finnish-owned companies can establish in the foreign capital investment markets (proposition P1). It is concluded that:

- The strengthening of Finland's capital investments cluster could be based on **attracting Finnish ownership** in its various forms such as entrepreneurial, innovative, institutional, venture capital, investment funds, and through the stock exchange. Our ownership potential should be fully exploited among large, medium-sized as well as small companies.
- On the other hand, a new industrial policy (program) must be designed to ensure that the owners will be thoroughly informed about **the natural limits of growth** of their companies, set by Finland, as a small and open EU country. Ideally, the Finnish owners should have feasible options, time and data to make up their minds as to what extent they want to devote to their companies in order to grow and become internationalized. The higher the targeted size and internationalization degree are, the more new foreign owners and other financing sources are needed, and consequently this will decrease the share and role of the original Finnish owners.

- (2) **The foreign ownership may enable, but also limit the internationalization degree and size** of a dependent, acquired or established subsidiary or joint venture according to a local role focusing on the Finnish markets, a regional role e.g. exports to and operations in the Russian and Baltic markets, or a European or global role (proposition P2). The foreign-owned, exporting subsidiaries and joint ventures should be treated equally with the Finnish-owned ones. In addition, new national policies must be **differentiated by the role** of the foreign-owned companies. It is concluded that:

- Today, many subsidiaries acquired or established by a foreign parent company are assigned to a **local role** only. Even their foreign parent companies (owners) should be offered incentives to allow and develop exports when the subsidiaries possess internationally competitive products or other offerings.
- The highest priority must be given to new policies which enable the foreign-owned companies to take and play a **regional role, primarily in the markets around the Baltic Sea**, as a part of their parent companies' international networks. This role seems to benefit the home base most in terms of production, exports, and employment.

□ A priority must also be given to those advanced foreign-owned companies which play a **global role** already, as well as to the ones aiming at a higher globalization degree. Policies should be designed both to support their outward-going operations (e.g. keeping core technologies in Finland) and inward-coming operations (e.g. attracting more R&D investments to Finland).

- (3) **The future of Finland's capital investment cluster** is determined implicitly by the future success of the large and medium-sized, growth-seeking companies in terms of international business volume, exports volume (appr. FIM 47 bill. in the year 1996), employment and networking smaller companies into the value-adding supply chains (proposition 10). **30 % of the large and medium-sized companies aim at growing > 10 % p.a.**, and their combined share is **>75 %** of the total business value. Understandably these companies are either technology-intensive contractors, building products suppliers, or construction contractors supplemented by the largest designers. It is concluded that:

□ Even the largest companies based in Finland are only medium-sized on a global or European scale. **The large companies** are the only ones which can get the clients (investors) convinced that they are capable of assuming such roles as turnkey contractor, system contractor, or process consultant managing and leveraging the **large-scale** investment solutions according to the conditions of a contract. Thus, a new industrial policy must be designed to ensure that Finland will have **the minimum number of 5-10 companies, by primary investment sector and technology platform**, which is capable of competing at a level of total investments and value-adding supply chains as a whole. We need these large companies to accumulate, draw together, sell and leverage all the related competitive technologies, subsolutions and subsystems, products and services that exist in Finland.

□ **The medium-sized (and small) companies** have their roles to play as key designers, experts, suppliers and contractors. Their primary fields of competition are those related to investment parts and particular areas, or those of subcontracting. Foreign turnkey and general contractors, main designers as well as CM/PM contractors and consultants form the primary potential client base for the medium-sized companies. Thus, a new policy is also needed to ensure that Finland will also have a large and increasing number of **highly competitive international medium-sized companies**, some of which will in turn grow and become large ones.

- (4) **Integrated growth and internationalization strategies** can be adopted and pursued, in principle, by all the large and medium-sized companies belonging to Finland's capital investments cluster. By the year 1997, the majority of Finnish companies have recovered from the deepest recession years, and are now capable of targeting **the next, logical level in size and degree of internationalization**. But for example, competing successfully at the European level first requires the Europeanizing of a company's management, ownership, and financing to a sufficient degree (proposition P5). In addition, each growth strategy requires equal, preceding additions to and improvements in partly different capabilities (proposition P11). It is concluded that:

□ A new industrial program is needed to ensure that the management (and the owners) of the companies will be thoroughly informed about **the available ways to grow** and what new requirements each slow or fast growth strategy sets for their own and other key capabilities. The bigger the targeted growth is, the more comprehensive the additions to and improvements in the capabilities are needed. The faster the targeted growth is, the earlier the capability additions and improvements must be started.

□ Similarly, a new internationalization program is needed to ensure that the management (and the owners) of the companies will be thoroughly informed about **the available ways to internationalize themselves** and what new requirements each slow or fast internationalization strategy sets for their own and other key capabilities. The higher the targeted internationalization degree is, the more comprehensive additions to and improvements in the capabilities are needed. The faster the targeted process is, the earlier the capability additions and improvements must be started.

(5) **The targeted internationalization degree of market base** will tie a company's fate to its future base-specific competitiveness and competitive developments within the market base in question. The share of a **dominant market base** is > 50 % a company's total turnover or invoicing. A company may target either domestic, exports or localized market base due to the combined, enabling and limiting impacts of its realized internationalization pattern. **The three primary market bases** are as follows:

(a) **Over 50 %** of the companies focus primarily on **the Finnish market** (share of turnover or invoicing > 50 %), and in this way tie their fate mainly to their future competitiveness and competitive developments at home (proposition 7a). In addition, minor, sporadic exports do not serve as a buffer against the next recession. It is concluded that:

□ A new exports policy must be designed to ensure that **the domestic market-based companies** will become capable of, and will actually export (not only indirectly) their offerings to selected foreign markets. The aim is to assist these companies' survival through the next country-wide recession, or to compensate likely losses of their primary client base in Finland.

□ The domestic market-based companies also form **extra capacity** for our exports (subcontracted by export-based companies) in the coming years when, for example, the targeted accumulated demand will suddenly be realized, and this strong market growth is perceived to be only temporary.

(b) **Appr. 40 %** of the companies focus on **the exports** (share of turnover or invoicing > 50 %), and in this way tie their fate to their future competitiveness which must be built for and adjust separately to each targeted export market (proposition 7b). It is concluded that:

□ A new policy must be designed to ensure that **the export-based companies** will become capable of managing their primary market segments or client bases in a dynamic, more profitable way. This means e.g. that the export management (team) will be able to manage simultaneously entries into new attractive segments, penetrate deeper into the current segments, and exit unprofitable ones.

□ The export-based companies must also be encouraged, but at the same time be equipped with the new capabilities needed for entering into **partnerships and networking arrangements** both with companies based in Finland, incl. those companies belonging to other synergic industrial clusters and with foreign, internationally or locally operating companies.

(c) **Only 10 %** of the companies focus on **the localization in the foreign markets** (share of turnover or invoicing > 50 %), and in this way tie their fate to their future localized, decentralized and networked competitiveness (proposition 7c). It is concluded that:

□ The third related policy must be designed to ensure that **the localizing companies** will be attracted to hold **Finland as their beneficial home base** also in the future, in terms of the location of their headquarters, technology platforms for major innovations, integrated domestic supply networks, and positive Finnish image.

(6) **The targeted, narrow, European-wide or even global geographical patterns** are coupled with the preferred internationalization degree of market base among the companies. Each geographical, or market pattern requires partly new and different capabilities which a company in question must learn and master before actually trying to enlarge its current pattern (propositions 8-9). **The four primary geographical patterns** are as follows:

(a) Appr. **20 %** of the companies preferably export to and operate in **the selected markets around the Baltic Sea**. It is concluded that:

□ On the one hand, our industrial and cooperation policies must be partly renewed along **the Nordic dimension**. Both investment demand and supply bases are becoming more and more integrated across Finland, Sweden, Denmark and Norway. Restructuring, e.g. acquisitions, mergers, and divestments will continue also among the companies belonging to the Nordic capital investments clusters. Our aim is to maintain, or attain, business leadership and majority ownership in those sectors of the capital investments cluster which have the most beneficial synergies with Finland's strong, semi-strong, and emerging industrial clusters.

□ On the other hand, the promotion of exports, cooperation, as well as product adjustments and certification programs must be continued and renewed annually according to the anticipated local developments in **the emerging markets** of Russia, the Baltic countries, Poland, and Germany's new states. For the companies based in Finland, these neighbouring markets are the most natural direction to grow. **In the longer term**, the Finnish companies must be in the best position possible to compete successfully when these markets start attracting more foreign capital investments and financing, and realizing markedly their national accumulated investment needs in the coming years. **In the short-term**, our ministries, officials, and branch associations have to continue solving day-to-day, often ad hoc problems that the companies meet in their export, import and local transactions. At the very least, the companies could be informed more effectively about the basic as well as fast-changing new rules of doing business in these emerging markets.

(b) Appr. 20 % of the companies preferably export to and operate in **the markets around the Baltic Sea as well, plus the selected CIS and other Asian markets**. It is concluded that:

□ The exports and cooperation policies related to **the CIS markets, or countries**, could be refocused according to those sectors where the investments will be most likely realized, and their fit is best suited to the Finnish companies' offerings. In addition, the bilateral relations could be strengthened between Finland and the CIS countries, respectively. At the very least, the companies aiming at these investment markets should be informed more effectively about local developments (incl. foreign subsidized programs and financing).

□ Finland's "imago-building" as well as bilateral and multilateral relationships must be continued in **selected Asian countries**, such as the People's Republic of China, Japan, Malaysia, and Indonesia. Their vast capital investment markets will enjoy high growth also in the longer term. Rules of competition are often set by the largest, most globalized companies. Here, the Finnish companies could be promoted by focusing on one targeted investment sector at a time. At the very least, the companies aiming at these investment markets should be informed more effectively about local market developments and rules of competition.

(c) Appr. 30 % of the companies pursue **the Europeanization process** resulting in the focused market pattern for exports, procurement, and local operations across Europe. It is concluded that:

□ Our industrial policies related to **the unifying EU markets** could be refocused in order to strengthen Finland's capital investments cluster, and also to utilize Finland's industrial clusters' synergic interdependencies to a greater degree. At the very least, the companies should get more information about opening of closed sectors, competitive developments, as well as directives and harmonized standards. This sector data should be compiled by each primary investment sector across the EU member countries.

□ Our trade and cooperation policies concerning **Central and Eastern Europe** and their emerging investment markets, could be updated and specified into programs according to the anticipated local developments. In the coming years, such countries as Poland, the Czech Republic, and Hungary will play bigger roles both as investment markets (demand to be realized) and supply bases (where foreign companies locate their production). At the very least, the companies should get more information about developments anticipated related to investment demand and production bases.

(d) Appr. 30 % of the companies aim at **globalizing their patterns** beyond Europe with emphasis on selected Asian, US and/or developing regions where they operate locally, export to as well as import and procure from. It is concluded that:

□ **A new globalization policy** must be designed to ensure that the companies aiming at, or those having already realized their global patterns, will be also in the future attracted to hold Finland as their home base.

□ At the very least, the management (and owners) of the companies aiming at becoming global should be informed thoroughly about the highly demanding requirements for partly globalizing, partly localizing their business processes and underlying competitiveness.

(7)

The necessary condition for sustainable companies is that the cumulated financial performance is positive (profits > losses) within any longer period of time. In reality, any particular company is likely to perform well at any given time, but poorly in the coming years (and vice versa). Thus, it is concluded that:

(a) **Financially high-performing companies** which also invest markedly in their international (and overall) competitiveness, form a dynamic nucleus for Finland's capital investments cluster. Profitable years enable a company to try to realize its future goals (propositions P12a-13a). Even rather small, realized investments in international competitiveness enable a company to try to sustain in the future (proposition 14). It is concluded that:

□ The industrial and technology policies could be partly redesigned to attract high-performing companies based in Finland **to invest markedly** in their future international competitiveness, and in this way sustain the dynamic nucleus of Finland's capital investments cluster. Otherwise, neglected investments will likely lower these companies' performance in the future.

□ At the very least, our taxation and related policies must treat the high-performing companies in the same way as in their leading competitors' home countries' tax authorities treat them.

(b) **Financially low-performing companies** have limited or no funds to invest in their international (and overall) competitiveness. The unprofitable years, or periods, limit, postpone or prevent altogether even the goal-setting for business or competitiveness developments (propositions 12b-13b). Small or no investments at all means that the management (owners) tie their fate solely to future competitive developments in domestic markets (proposition P15). It is concluded that:

□ A new policy is needed to ensure **restructuring** a low-performing company in the ways that allow, at minimum, its profitable parts, businesses or product groups to survive without the latter suffering from those longer periods when all their profits would be allocated to cover the substantial losses made elsewhere within the company. This policy could also include incentives for liquidating a loss-making company or just a business. Thus, new incentives are needed for encouraging the top management, owners and financiers to react jointly and swiftly in the case of loss making companies or businesses.

(8)

The top management (and owners) have traditionally been keen on ensuring contract- or project-specific competitiveness. This is due to the fact that their capabilities have been accumulated primarily from the times when they were themselves managing contracts or projects. However, the higher the internationalization degree a company targets, the wider the capabilities are needed among its top management (team). Thus, the in-depth contract- or project-related capabilities are not enough, and the top manage-

ment must enlarge and supplement its capabilities to support all the areas of a company in question, such as the suggested company-level capabilities and business-specific capabilities (in Chapter 3). It is concluded that:

- **New learning and management development programs** must be designed and organized for top management (and owners) in order to ensure that they will be able to take into account all the relevant options for internationalizing their companies, or businesses, to choose the most competitive or feasible option at any given time, **to implement first the required improvements in their international competitiveness**, and to realize the actual business strategies. The more experienced the management in question are, the more thorough and carefully designed the training program for "unfreezing" the accumulated capabilities and introducing new valid ones has to be.
- At the very least, **new emerging requirements should be communicated** to the top management (and owners) so that they may decide among themselves by what means they will update and continuously improve their personal skills and management teams' capabilities.

- (9) **The structure of Finland's capital investments cluster is very fragmented, yet highly synergic with our other industrial clusters.** It is partly strong (related to investments of the forest cluster) and semi-strong (related to investments of the basic metal and energy clusters), potential or emerging (related to investments of the telecommunications and environment clusters), and latent (construction cluster). It is concluded that:

- **A new industrial cluster strategy** must be designed in order to integrate all the synergic policies needed to strengthen all the five business groups belonging to Finland's capital investments cluster.
- **A new task force, or steering group**, is also needed in order to realize this cluster strategy, coordinate programs and follow up the performance. Its primary task is to overcome the difficulties caused by the fragmentation of this identified cluster, and to realize the vast synergy potential embedded among the five business groups as well as among all the related clusters.

- (10) **The suggested strategy design, policy making, and supporting program** in order to strengthen Finland's capital investments cluster **must be integrated** with the ongoing programs, such as those under TEKES, associations and other organizations. It is concluded, for example that:

- A new **"Global Project Business" Research Program** is currently being prepared by the TAI Institute at the Helsinki University of Technology jointly with interested companies. The program is likely to be established under TEKES' umbrella.
- **Finland's construction industries' strategy for the Russian markets** has recently been designed by the National construction task force. This proposal will be published in October 1997, at the latest.

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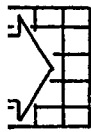
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Survey subpopulation 1

84 LARGE AND MEDIUM-SIZED BUILDING PRODUCTS SUPPLIERS BASED IN FINLAND (as of June 1996)

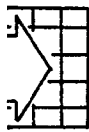
ABB Oy Group	Kone Oy	☐ Solart Oy	Scancem Companies
☐ ABB Control Oy	Kvaerner Masa-Yards	☐ Valotila Oy	☐ Finnsementti Oy
☐ ABB Ecopipe Oy	KWH Pipe Oy Ab	Partek Group	☐ Gyproc Oy
☐ ABB Fläkt	Lappset Group Oy	☐ Precast Concrete	☐ Lohja Rudus Oy Ab
☐ Asea Skandia	Lemminkäinen Group	☐ Partek Insulation Ab	☐ Optiroc Oy Ab
☐ Lapinleimu Oy	☐ Roofing unit	PMA Group Oy/joint	Sepa Oy
Ahlström Sähkötarvik-	Lujabetoni Oy	ventures	SO Oviteollisuus Oy
keet Oy	Makron Companies	☐ Fenestra Oy	Stala Oy
Alavuden Puunjalos-	☐ Deltatek Oy	☐ Novart Oy	Suomen Kiviteollisuus Oy
tustehdas Oy	☐ Teräspeikko Oy	☐ Parma Oy Betoniele-	Suomen Kuitulevy Oy
Ensto Oy Ab	Metra Group	mentit ja Parastek Oy	Suomen Taloteollisuus Oy
Finnforest Oy	☐ Abloy Oy	☐ Parma Metals Oy	Teknos Winter Oy
☐ Kerto unit	☐ Sanitec Oy/IDO	☐ Parmavalmiste Ovet	Teräselementti Oy
☐ Wirebo Oy	Kylpyhuone Oy	Pukkila Oy Ab	Tikkurila Oy
Forssan Metallityöt Oy	Metsäpuu Oy Domus-	Pyhännän Rakennus-	Tulikivi Oy
Halton Oy	ikkunat	tuote Oy	UPM-Kymmene Corp.
Helvar Oy	Oy Minerit Ab	Rautaruukki Group	☐ Timber Division
Honkarakenne Oy	Naaraharju Oy Actiw	☐ Mäkelä Metals Oy	Upofloor Oy
Huurre Group Oy	Nokia Alumiini Oy	☐ Rannila Steel Oy	Uponor Oy
Icopal Oy	Normek Companies	☐ Toijalan tehdas	Urepol Oy
Isora Oy	Nunnanlahden Uuni Oy	☐ Fundia Betoniteräksset	Tambest Oy
Isover-Ahlström Oy	Oilon Oy	☐ Metform	Weckmanin Konepaja Oy
Jäspi & Mäkinen Oy	Onninen Oy	☐ Strip Products	Vierumäen Teollisuus Oy
Katepal Oy	Oras Oy	Rettig Heating Group	YIT Croup
Knauf-Kipso Oy	Outokumpu Poricopper	Sandudd Tapetti Oy	☐ PPTH Teräs Oy
Koja Companies	Paloheimo Group	Saunatec Oy	



Survey subpopulation 2

34 LARGE AND MEDIUM-SIZED BUILDING AND CIVIL ENGINEERING DESIGNERS BASED IN FINLAND (as of June 1996)

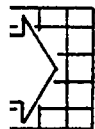
AIP-Mittaus Oy	FINNMAP FM Inter-	JP Group/Finvest Oy	Ruokosuo Arkkitehdit Oy
Air-Ix Suunnittelu Oy	national Oy	□ Maa ja Vesi Oy	Arkk.tsto Sigge Ky
A-Insinöörit Oy	Finnroad Oy	□ JP-Talotekniikka Oy	SITO Group
Arkkitehtitsto CJN Oy	Ins.tsto Olof Granlund	□ JP-Kakko Oy	Suunnittelukeskus Oy
Devecon Oy	Juva Companies	□ JP-Terasto Oy	National Road Admi-
Engel rakennuttamis-	Aaro Kohonen Oy	Ins.tsto Magnus Malm-	nistration/Exports
palvelut Oy	Arkk.tsto KVA Oy	berg Oy	Inststo MikkoVahanen Oy
Finnconsult Oy	Laitila Arkkitehdit Oy	Ins.tsto Niemi & Co Oy	Vesi-Hydro Oy
Finnmap Consulting Oy	Ins.tsto Lausamo Oy	Projektikonsultit Oy	Viatek Group
Finnmap Infra Oy	LT Group	Rakenn.tsto CMC Oy	



Survey subpopulation 3

24 LARGE AND MEDIUM-SIZED CONSTRUCTION CONTRACTORS BASED IN FINLAND (as of June 1996)

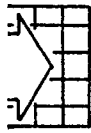
CM-Urakointi Oy	□ Rakennus Oy Lemminkäinen	Quattrogemini Oy	ABB-Installaatiot Oy
Hartela Group	□ Asphalt & Pavements	Seicon-Rakennus Oy	Are Oy
Honkavaaran Maastojaja Talonrakennus Oy	LIE-BO Oy Ab	Skanska Oy	Böge Larsen Projects
Kesälahden Maansiirto ja Rakennus Oy	Luja Group	SRV-Viitoset Group	E. Hiltunen Oy
Lemminkäinen Group	NCC-Puolimatka Oy	Tekra Companies	Koja Ilmastointi Oy
	Polar-Rakennus Oy	Terramare Oy	Rovakate Oy
		YIT Group/Exports Division	Tekmanni Oy



Survey subpopulation 4

38 LARGE AND MEDIUM-SIZED TECHNOLOGY-INTENSIVE CONTRACTORS BASED IN FINLAND (as of June 1996)

ABB Oy Group	□ IVO International Oy	□ Galvatek Oy	Safematic Oy
□ ABB Industry Oy	Kemira Engineering	Partek Concrete Engi-	Santasalo Oy
□ ABB Power Oy	KCI Konecranes Int'l	neering Oy	Tamglass Engineering
□ ABB Transmit Oy	Kuusakoski Group	Raisio Engineering	Tampella Power Oy
Ahlström Group	Kvaerner Masa-Yards	Rauma Group	Vaisala Oy
□ Ahlstrom Machinery	Neste Engineering	□ Neles-Jamesbury	Valmet Group
□ Ahlström Pumput	Nokia Telecommunica-	□ Sunds Defibrator	□ Valmet Paperinjalos-
EKE Group	tions	Rautaruukki Enginee-	tuskoneet Oy
Foster Wheeler Ener-	Outokumpu Technology	ring	□ Valmet Automation Oy
gia Oy	□ Oku Engineering Oy	Raute Oy	Wartsila Diesel Inter-
GWS Systems Oy	□ Oku Eng. Services Oy	□ Raute Wood	national Ltd Oy
IVO Group	□ Oku Mintec Oy	□ Raute Precision	YIT Group
□ IVO Energy Int'l Oy	□ Eng. Contractors Oy	Roxon Companies	□ YIT-Huber Division



Survey subpopulation 5

**19 LARGE AND MEDIUM-SIZED PROCESS
DESIGNERS AND CONSULTANTS BASED IN
FINLAND (as of June 1996)**

CTS Engineering Oy	JP Group/Finvest Oy	Jyvästek Oy	Tekla Oy
Deltamarin Oy	□ Jaakko Pöyry Oy	Omnitele Oy	Telecon Oy
Elomatic Group	□ Energia-Ekono Oy	Projekti-insinöörit Oy	Valiotekniikka Oy
Etteplan Oy	□ JP-Suunnittelu Oy	Polartest Oy	Vertex Systems Oy
Helsinki University	□ JPI Process Contrac-	Rejlers Oy	
Knowledge Services	ting Oy	Rintekno Oy	



TRANSLATION

The original questionnaire was designed and tailored in Finnish for each of the five business groups. The results presented in this paper are based on the companies' answers to the questions no. 1-4 of Part II and the question no. 11 of Part V. The following example concerns the large and medium-sized building products suppliers based in Finland.

**MAIL SURVEY ON INTERNATIONAL COMPETITIVENESS IN
THE YEAR 1996 AND ITS DEVELOPMENT UP TO THE YEAR
2000 AMONG BUILDING PRODUCTS SUPPLIERS BASED IN
FINLAND**

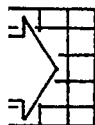
I SURVEY'S AIMS, POPULATION AND GUIDELINES

**II REALIZED AND PLANNED INTERNATIONALIZATION
PATTERNS**

**III INTERNATIONAL COMPETITIVENESS AND ITS
DEVELOPMENT**

IV USE OF MANAGEMENT TOOLS AND OUTSIDE CONSULTANTS

**V INVESTMENTS IN INTERNATIONAL COMPETITIVENESS IN
THE YEAR 1996**



II REALIZED AND PLANNED INTERNATIONALIZATION PATTERNS

1. Name of the company / division / unit : _____

Name and position of the respondent: _____

Mailing address, telephone, and facsimile numbers: _____

2. Our answers to the questions deal with:

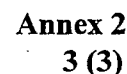
☐ Company / division /unit as a whole

☐ Part of the company/division/unit, which part _____

3. Turnover, financial operating income and personnel, realized (the years 1995 and 1996) and planned (targeted status in the year 2000)

3a.	Turnover	1995	1996	2000
	Total turnover (in FIM mill./bill.)	_____	_____	_____
	<input type="checkbox"/> Domestic sales (in FIM)	_____	_____	_____
	<input type="checkbox"/> Exports (in FIM)	_____	_____	_____
	<input type="checkbox"/> Foreign subsidiaries (in FIM)	_____	_____	_____
3b.	Financial operating income (profit/loss)	1995	1996	2000
	Total FOI (as % of turnover)	_____	_____	_____
	<input type="checkbox"/> Share of domestic sales (as % of FOI)	_____	_____	_____
	<input type="checkbox"/> Share of exports (as % of FOI)	_____	_____	_____
	<input type="checkbox"/> Share of foreign subsidiaries (as % of FOI)	_____	_____	_____
3c.	Personnel (on average p.a.)	1995	1996	2000
	Total amount	_____	_____	_____
	<input type="checkbox"/> Those in domestic operations	_____	_____	_____
	<input type="checkbox"/> Those in exports, stationed in Finland	_____	_____	_____
	<input type="checkbox"/> Those abroad, in projects/contracts	_____	_____	_____
	- thereof the amount of Finns involved	_____	_____	_____
	<input type="checkbox"/> Those abroad, in foreign subsidiaries	_____	_____	_____
	- thereof the amount of Finns involved	_____	_____	_____

Note. In columns "Year 2000", targeted direction can be stated (as increases x %, remains the same and decreases y %).

[illegible]

